UNIVERSITY OF KWAZULU-NATAL

THE ROLE OF MAJUBA TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING COLLEGE PROGRAMMES IN ADDRESSING INDUSTRIAL SKILLS SHORTAGES IN NEWCASTLE AND AMAJUBA DISTRICT.

By

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DECLARATION

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RESEARCH ABSTRACT

This research assesses how the programmes offered by Majuba College, a Technical Vocational Education and Training centre (TVET), are best suited in their design to address the skills shortages pertaining the industries operating within the Newcastle area and the Majuba district as a whole. Furthermore, the study sought to establish whether vocational training programmes were designed in line with the goals of the South African government to equip the youths with the requisite skills, knowledge and attitudes that are of utmost importance for their absorption into the labour market. The problem statement was formulated from the concern that the college programmes being offered to the students were not really in sync with the needs of the industrial community of the particular area where the college is located. A case study strategy was employed for the research and the setting was non-contrived. It was also exploratory in nature. The choice of the research strategy was motivated by the need to collect qualitative data from the participants and thus meet the research objectives. A case-study of the Majuba TVET College portrayed views of two experienced representatives of local industries in Newcastle. The representatives were from the textile and the manufacturing industries. The information collected from the interviews pointed out various challenges that the institution (Majuba TVET College) is currently facing. These challenges include lack of infrastructure, poorly resourced campuses, competency of lecturing staff and inadequate lecturing staff with specialised skills. A structured interview method was applied in the study under review to gain the perceptions of the Majuba TVET programmes from role players. The researcher, as a practitioner in the field, has also made some observations during data collection. A broader purpose of the TVET sector was analysed in the literature and included views of other industries in relation to the TVET College programmes. It was also evident from the research that a paradigm shift is needed in the design of college programmes if the government is to achieve its goal to minimise unemployment amongst youth. Findings indicated that Majuba TVET College programmes are mostly focusing on Engineering field in equipping its learners with the necessary skills that are required by industries. However, the case study discussions during the research process indicated that the college paradigm has shifted from one area of discipline, and is expanding its partnership with other local industries as well.

KEY TERMS: Vocational Education, TVET College, Industrial Skills, Skills Shortages, Training and Infrastructure.

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CHAPTER 1

ORIENTATION OF THE STUDY, OVERVIEW AND PROBLEM FORMULATION

Newcastle is a town located in the Northern part of KwaZulu-Natal and falls within the Amajuba District with small neighbouring towns such as Dannhauser and Utrecht. It lies at the intersection of KwaZulu Natal, Mpumalanga and Free State Provinces. According to Newcastle Integrated Development Plan (2012), the economy of Newcastle is mostly dominated by three industrial sectors-manufacturing, mining and textile services. The aim of this study was to analyse the effectiveness of the Majuba TVET College Programmes to respond in industrial needs and also to gain an overview perception of industries views about college programmes.

1.1 Introduction

The establishment of the Technical Vocational and Training (TVET) College is based on the particular kind of education which is not similar to that ordinarily found in a typical school environment. TVET Colleges are positioned to address skills shortages and offer second chance to the NEETs (Not in Employment, Education or in Training). This vision is articulated in the White Paper for Post-School Education and Training (2013). The TVET College offers the kind of education which integrates theoretical knowledge and practical skills. Section 3 of the White Paper outlines that the main purpose of the TVET College programmes is to train and equip young South Africans with the necessary skills, knowledge and attitudes necessary for their employment in the labour market Fisher and Scott (2011). TVET College programmes have a prominent role to play in ensuring that young South African are fully equipped with the necessary skills for benefiting the economy of South Africa. Furthermore, such programmes are able to bridge the training and labour market gap. Alam and Hoque (2010:117) affirms that "there is no doubt that the proper development of technical and vocational skills is vital to the economic development of every country, especially the developing countries". She further asserts that Technical/Vocational education is a fundamental element in the development equation because it allows individuals and societies to unlock their potential, expand their horizons and adapt to the changes in the dynamic world. In fact, the TVET College programmes should be used as an instrument to overcome the challenge of skills shortages in South Africa.

Correspondingly, the mission of Majuba TVET College is to provide responsive and relevant education, training and developmental programmes. The efficacy and the relevant of skill-based programmes has been a subject of concern for the community of Newcastle. Thus, this study aimed to evaluate the contribution of Majuba TVET College programmes to the local industries of Newcastle and its surroundings. The researcher aimed to obtain a greater insight on how these college programmes are structured to acquire an acceptable recognition in the local labour market. Furthermore, the study aimed to gain a further understanding on how the local industries perceive Majuba TVET College programmes. The knowledge could be valuable in developing skills and attitudes that promote the quality and the relevancy of vocational education.

1.2 Background of the Study

The Majuba TVET College studied is situated in the Northern Region of KwaZulu-Natal and covers a vast area served by Amajuba District Municipality and the college has one campus located under uMzinyathi District municipality which is a neighbouring municipality. The major municipality under the Amajuba District Municipality is the Newcastle local Municipality. The Newcastle municipality is served by five out of the six campuses of the college.

According to the Newcastle Integrated Development Plan (IDP) (2012), access to education facilities seems to be generally good. The Newcastle municipality is still developing with 118 schools including both primary and secondary schools. This can be broken down further as follows: 10 combined schools; 12 junior primary schools; 7 senior primary schools; 55 primary schools and 34 secondary schools. The Newcastle IDP (2012) also indicates that the number of schools in the zone seems to be sufficient, but the quality of each facility and the teacher pupil ratios are important aspects which must be borne in mind for future planning and development in the area. Although the Newcastle municipality has other private tertiary institutions, the most major institution which is conveniently accessible to every community member is the Majuba TVET College.

There is a strong concern about the inadequate skills level of many young South Africans, who completed their matric qualification and have enrolled into the Technical Vocational Education and Training Colleges (TVET) to acquire crucial and relevant industrial skills. The expansion of the economy in South Africa relies on the availability of skilful manpower. Hence, one of

the recommendations made by the Department of Economic Development (2013) was that TVET programmes should bridge the skills gap. This should be done by providing programmes which emphasise the industrial skills need. In this study the researcher was targeting to identify the role of the Majuba (TVET) College in ensuring that they offer programmes which are in line with the skills demanded by the industries around Newcastle and Amajuba District.

Technical Vocational Education and Training (TVET) programmes are aimed at elevating and empowering young people by providing important skills which are fundamental for economic growth. Furthermore, they offer skills for self-employment. One of the goals of the National Skills Development Strategy III (2011-2013) is to promote growth of a community (TVET) College system that is responsive to the section, local, regional and national skills needs and priorities. According to the National Skills Development Strategy III (2011- 2013) the public (TVET) College should be central to the governmental programmes of providing the youth and unskilled adults with relevant industrial skills. In this study the researcher has established the strategies that are designed by the Majuba (TVET) College to assist the local industries in overcoming the industrial skills constraints. Furthermore, in this study, the researcher aimed to identify the relevant challenges in the implementation of such programmes.

1.3 Motivation of the Study

The motivation or inspiration for this study comes from the concern that despite the fact that the public TVET College programmes have been designed to focus on addressing the skills shortages in South Africa, the vocational training programmes in colleges seem to be unable to respond fully to its purpose, considering that South Africa is currently facing crucial industrial skills shortages. For example, South Africa is suffering from the massive shortage of skilled Artisans hence Tshele and Agumba (2009) bemoaned an observable decline in the number of skilled Artisans in our country. In South Africa over the past ten years, little has been done to identify the causes and the extent of effect in the construction and engineering industry.

It is against this background that this research sets out to establish the causes of inadequate skills in South African industries. The study further considered some strategies that can be implemented to align the TVET College programmes to the industrial needs. The study has a potential to provide feedback to the Department of Higher Education and Training (DHET) on the perceptions or views of industries about the TVET programmes. Furthermore the study will

enhance the understanding of challenges faced by TVET College lecturers to integrate knowledge, pedagogy and practical on the TVET programmes (National Certificate Vocational and NATED (National Accredited Technical Education Diploma)). Furthermore, the study has also outlined the aspects on which college lecturers need to be developed on, for them to be able to deliver relevant theoretical knowledge in class in conjunction with providing practical training. By critically examining TVET College programmes. The study has also invariably identified characteristics of TVET College programmes that respond effectively to the industrial skills shortages.

1.4 Problem Statement

The TVET College system has been identified by the government as a significant component in improving the economic well-being and providing employment to young South Africans. Likewise, McGrath (2012) contends that the South African TVET system needs to be strengthened in a manner that its provides high quality technical vocational education for all young South Africans, without losing sight of the TVET special relationship with the world of work. To achieve this vision the TVET College may need to go through a lengthy process of curriculum review.

In the survey conducted by Department of Labour (2005) about exploring the challenges confronted by the South African industries, it was reported that amongst other challenges faced by industrial sector of South Africa is that they seem to struggle to fill vacant posts or positions, due to the scarcity of suitable or qualified applicants in the labour market. Therefore in view of the above claim, it is clear that South Africa is currently facing a growing pressure of ensuring that more skilled graduates enter into the labour market.

The report of the challenges facing the TVET College subsystem, the TVET Round Table (2010) indicated that public TVET colleges have not been perceived as serving the needs of industries and on the other hand industries have not been responsive to the needs of colleges. Therefore this study seeks to establish the extent to which TVET College programmes to address industrial skills shortages in the Newcastle and the surroundings areas. In addition the study assessed the quality and relevant of the TVET college programmes in equipping students for gaining relevant industrial skills. Furthermore this research has endeavoured to gain insight

into the role of the Majuba TVET College programmes in addressing industrial skills shortages in Newcastle and the surroundings.

1. 5 Aim and Objectives of the Study

The main objective of the study was to evaluate the impact of the Majuba TVET College programmes in addressing the industrial skills shortages in Newcastle industrial sectors. Based on the main objective of this study, the following sub-research objectives were formulated:

- To examine how the Majuba TVET College programmes aim to address the industrial skills shortages at Amajuba Distriuct;
- To investigate kinds of skills shortages that exist in the industries of Newcastle and its surroundings;
- To determine how these programmes aim to address industrial skills shortages in Newcastle and its surroundings;
- To examine the characteristics of programmes that have contributed to reduced skills shortages in industrial development of Newcastle and surroundings;
- To assess how these programmes could improve skills shortage challenges in the industrial sector of Newcastle and its surroundings.

1.6 Research Questions

Based on the context of the research problem discussed previously, the following research questions were formulated;

1.6.1 What kind of skills shortages exists in the industrial development of Newcastle and Amajuba District?

1.6.2 What programmes are being offered by the Majuba TVET College to address the shortages?

1.6.3 In what ways do these programmes aim to address skills shortages in Newcastle and Amajuba District?

1.6.4 What are the characteristics of programmes that have contributed to reducing the skills

shortage in industrial development of Newcastle and Amajuba District?

1.6.5 How these programmes can be improved so that the skills shortages can be reduced in the Industrial Sectors of Newcastle and its surrounding areas?

1.7 The Value of the Study

The study attempted to establish the impact of Majuba the TVET College programmes to address industrial skills shortages and the causes and effects of inadequate skills. The study will invariably contribute towards the field by providing an understanding of how local industries of Newcastle and surroundings perceive or view the Majuba TVET college programmes. All relevant stakeholders in the TVET programmes, mainly lecturers, curriculum developers and management will benefit from the study through the critical reviewing of the status of the current curriculum with an aim of aligning it with industrial needs.

1.8 Concepts and Definitions

The following definitions are frequently used in this study and are defined as follows:

Causes: Oxford learner's Dictionary (2015) explain the term as follows: "a cause is the person or a thing that makes something to happen".

College: is defined by an act as a "public or private FET institution that is established, declared or registered in terms of the Further Education and Training College Act, No 16 of 2006 (RSA, 2006:8)."

Skill: The Government Gazette (2014) on national scarce skills, defined skill as the necessary competencies that can be expertly applied in a particular context for a defined purpose. The Government Gazette went further to outline the following three elements of competencies that explain what is meant by a 'skill':

i. Practical competence - the ability to perform a set of tasks;

ii. Foundational competence - the ability to understand what people are; doing and;

iii. Reflexive competence - the ability to integrate or connect our performance with an understanding of the performance of others, so that we can learn from our actions and are able to adapt to changes and unforeseen circumstances.

A **skill shortage:** occurs when any one of the following situations arises or combination of them; shortage of workers in a particular occupation, labour exceeds availability of skills or workers lack appropriate qualification (Barnow et al., 1998).

Programme: The Department of Higher Education Act, No 16 of 2006 (RSA, 2006) outlines that programme is a purposeful and structured set of learning experiences that leads to a qualification.

1.9 Research Methodology

There are two methods that can be adopted when conducting a study. These are the qualitative and quantitative research methods. Cohen, Manion and Morrison (2007) argues that the choice of any of these methods depends on the purpose and the focus of the study. This study is designed to investigate the role of the Majuba TVET College programmes in addressing the major problem of the skills shortage of the youth of Newcastle and Amajuba District as a whole. In this investigation of the study, the researcher applied qualitative research methods. According to McMillian and Schumacher (2006) they argue that qualitative research usually involves an inquiry during which the researcher collects data in a face-to-face situation by interacting with selected people in their settings. While Merriam (2004) explains that qualitative researchers are interested in understanding the meaning which people have constructed in their making sense of the world and their experience in the world.

According to Johnson and Christensen (2012) qualitative research allows the researcher to have an opportunity of gaining a clear picture of what is happening on a particular situation. In this study, the researcher gained information from the participants, regarding the role of the Majuba TVET College programmes in addressing skills shortages in industries situated in Newcastle and Amajuba District. The researcher aimed to interact with the management of the Majuba TVET College, lecturers, students and the management of selected industries to share their views and perspectives about structure of programmes offered at Majuba (TVET) College. This investigation, therefore, lends itself to the qualitative method within an interpretive paradigm, since the researcher attempts to understand the impact of Majuba TVET College programmes to local industries of Newcastle and the Amajuba District.

This study will be conducted at the Majuba TVET College, as well as in the few local industries that will be involved in the study. The Majuba (TVET) College has its central office situated

inside the town of Newcastle Central Business District (CBD) with six campuses. Five of the campuses are located within the Amajuba District, while the other one is situated at Dundee which is under the UMzinyathi District Municipality. The Amajuba District Municipality has urban, rural, and semi-urban areas. The Amajuba District Municipality has all levels of education starting from early childhood development Grade R, Primary schools, High schools, Special schools, Adult Basic Education and Training (ABET) and one TVET College, which is called the Majuba TVET College.

In this study the selection of participants was done purposefully based upon their experience, skills and expertise in the College and their respective industries. The participants will involve Senior Management of the Majuba TVET College, which comprises of the Rector, Deputy Director of Academics, Campus Managers and Chairperson of the College Council.

1.9.1 Data Collection Instrument (Techniques)

For the purpose of collecting data, the researcher of the proposed study will use the following data collection tools: namely, interviews and questionnaires.

1.9.2 Interviews

Johnson and Christensen (2012) explains that an interview is a method of collecting data in which an interviewer (researcher) asks questions to an interviewee (participant). In this study, the researcher employed semi-structured interviews, because provides deeper and detailed information on an issue being investigated. The interview was also directed to the management of local industries and the surroundings of Newcastle at large. Interviews were arranged in advanced; participants were given a notice of at least seven working days, so that the researcher ensured that no disturbances occurred relating to the individual activities.

1.9.3 Observation methods

Corbetta, (2003) prefers the development of first hand participant observation as a research method, and the underpinnings of that development in particular kinds of social theory and practical concern. Interpretive, participant-observational fieldwork has been used in the social sciences as a research method for about 70 years. Fieldwork research involves (a) intensive, long-term participation in a field setting; (b) careful recording of what happens in the setting by writing field notes and collecting other kinds of documentary evidence (e.g. memos, records, examples of student work, audiotapes, videotapes); (c) subsequent analytic reflection on the

documentary record obtained in the field; and (d) reporting by means of detailed description using narrative vignettes and direct quotes from interviews as well as by more general description in the form of analytic charts, summary tables, and descriptive statistics (Johnson and Christensen, 2012). Thus, this research will focus on indirect observation.

1.10 Research Design and Methodology

The research methodology of this study is based on the following aspects:

1.10.1 Population of the study

The researcher decided to add a description of the population to provide a thorough understanding about what the study entails. The Amajuba District Municipality is located in the north-western corner of KwaZulu-Natal and comprises three local municipalities: Newcastle, eMadlangeni and Dannhauser. The district population varies according to local municipalities as follows:

Table 1.1: District population

Municipalities within the District	Area (km^2)	Area (km^2) after 2011		Population	No. of Households	Poverty Rate
[redacted]	6,910.52	6,910.52	-	447,768	102,309	19.09%
Dannhauser Local	1,515.91	1,515.91	-	92,500	18,283	72.01%
EMadlangeni Local	3,539.32	3,539.32	-	23,548	5,274	56.80%
Newcastle Local Municipality	1,855.29	1,855.29	-	331,719	78,752	56.36%

Source: Statistics of the Amajuba District and Local Municipalities (2011)

The municipality is predominantly urban with almost 60% of households located in the urban areas. The largest concentration of people occurs in the Newcastle, Madadeni and Osizweni areas. The areas are also characterised by poverty, service backlogs and areas with marginal production potential. The latter coincides with areas occupied by the majority and previously disadvantaged rural communities or villages. The study further explores on the nature and the extent of level of education, facilities available to alleviate poverty and the district economic life.

1.11 Reliability and the Validity of the Study

1.11.1 Reliability

According to Merriam (2004) the reliability of a study means if a particular or specific technique is repeatedly applied on the same phenomenon, the result will be the same each time. The interview transcripts, interview questions, notes and other used documents by a researcher will be kept aside for future references. Furthermore, in order to enhance the reliability of the study, the interviews were conducted during the same period of time for all the participants.

1.11.2 Validity

Cooper and Schindler (2011) describe validity as an issue of whether the researcher is actually measuring what he/she is set out to measure. In order to maintain or to ensure validity on this study, the interview will be piloted to increase validity.

1.12 Ethical Consideration

The researcher has explained the aim of the study to the management of the Majuba TVET College as well as the management of the local industries within Newcastle. The study has taken into account the following

- The researcher gave participants the consent form containing information aim of the research;
- The researcher had the meeting with all the participants to obtain their consent vocally and furthermore they were also be informed about the objectives of the interviews; and
- The researcher was responsible for informing participants about their freedom to withdraw from the research at any given time they desired without any prejudice. The participants were given the assurance that their confidentiality and protected.

1.13 Limitations |to The Study

Best & Kahn (2003) establish that limitations are conditions that pose restrictions on the outcome of the study. The study only considered the views of two local industries in Newcastle. The researcher decided to confine the research to these industries for logistical reasons. Financial constraints to conduct the study smoothly was also a limitation. In addition, the researcher did not attempt to examine the views of the TVET lecturers on programmes offered

at the college. Lastly, there was limited time to finish the study, as the researcher is fully employed and a student at the same time.

1.14 Structure of the Study

Chapter 1 serves as the orientation of the study. It sets the background and presents and overview of the study which includes the role of TVET Colleges in South African context, the research objectives, and research questions and also highlight problem statement of the study.

Chapter 2 discusses the literature review about the role of TVET Colleges, Vocational Curriculum, Impact of skills shortages, Causes of skills shortages, perceptions about TVET College programmes, Nature of skills shortages in South Africa, and Stakeholders intervention to fight skills shortages. In addition, South African national skills policies were discussed in this study.

Chapter 3 -The research methodology and design. This chapter focuses on the research design that was used to determine the role of Majuba TVET Programmes to address industrial skills shortages. The study employed research methods such as observation and interviews for collecting the data required. The data collected was then analysed and interpreted in an attempt to answer all the research questions.

Chapter 4 **-** This chapter presents the findings emanating from the data collected from relevant participants outlined in the study, on the role of Majuba TVET programmes to address industrial skills shortages. The data collected was analysed and interpreted.

Chapter 5 - Summary, conclusions, findings and recommendations. This chapter contains a summary of the study and discusses the limitations of the research. The chapter also presents the conclusions drawn from the research findings and offers recommendations for improving the effectiveness of the Majuba TVET Programmes to address industrial skills shortages. Lastly the chapter also offers some recommendations for future research studies.

1.15 Summary

The aim of this chapter was to conceptualize an understanding of the academic programmes offered by public TVET colleges, and its extent to address industrial skills shortages. . Based on this conceptualization, research problem was formulated which stated that the primary aim of TVET College is to address the skills shortages and also to assess impact of academic

TVET College programmes in addressing skills shortages . Lastly this research study aimed in gaining a greater insight on the academic programmes of by the Majuba TVET College in addressing skills shortages at Newcastle and Amajuba District.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to examine existing relevant literature to this study; and to articulate and define the role of the TVET College programmes in South Africa in addressing industrial skills shortages. This entails a review of the role of the TVET College programmes to respond effectively to the industrial skills needs. Critical literature review of various scholars and researchers is conducted in this research. The outlined literature aimed to understand the role of the Majuba TVET College in addressing the lack of skills in industries situated in Newcastle and its surrounding areas. Muller et al., (2014) asserted that in the early twentieth century the TVET Colleges which were previously known as Further Educational and Training (FET) Colleges were developed to provide theoretical learning in conjunction with practical training, but in the beginning of the 1990`s there was a radical decline on the practical aspect provided by FET Colleges. This drastic decline suggests that the primary aim of introducing vocational education was to elevate the skills level of the South African people. He further contends that the economy of South Africa may face serious constraints in expanding domestic products, in the manufacturing aspect due to the weak intermediate skills based.

The literature examined covered themes such as the causes of industrial skills shortages and industries' perceptions towards TVET skills programmes and types of skills shortages that exist in South Africa and the reasons for such shortages. In this chapter policies such as the Reconstruction and Development Plan (RDP), the National Development Plan (NDP) (2012), the Industrial Policy Action Plan (IPAP) and National Skilled Development Strategy (NSDP) III were also outlined reference books, journal, articles, internet sources and theses were used in defining the key terms or concepts, determining the relationship between certain constructs and variables and also identifying relevant theories or arguments (Cilliers, Davis and Bezuidenhout, 2014)

2.2 The Role of Technical Vocational Education and Training (TVET) in South African Context

Pongo, Effah, Osei-Owusi, Obinnim and Sam (2014), point out that the most common characteristics of TVET sector is to respond effectively to the different training needs of

learners from different socio-economic background and to equip them for gaining sustainable employment, for their standard of living to be enhanced. In the same way, Ogbuanya and Onyenwe (2015), indicated that the crucial need to the youth is to empower them with viable knowledge and skills for serving in a hostile environment. They further, argue that such knowledge and skills could be acquired through vocational education that prepares them for employment. However, the primary role of Technical Vocational Education and Training (TVET) previously known as Further Education and Training (FET) is to support the transition of young people from education to work field. TVET balances education and training by offering students with the sound foundation of knowledge in conjunction with practical aspects on information. TVET priorities or polices are linked with various industries so that the knowledge that the student receives corresponds with the industrial needs. In the study conducted by Pongo et al, (2014) it was discovered that there is a mismatch between, institutional training (TEVT colleges in Ghana) and the country's industries. This mismatch is due to the lack of interaction between TVET Colleges and industries, since TVET colleges programmes are not corresponding to the needs of labour market. Ultimately, this is negatively influencing the employability of graduates from the TVET sectors. Correspondingly, Ogbuanya and Onyenwe (2015) affirm that vocational education must adapt to the changes that are occurring in the society and their programmes should be gearing-up for a career development of the youth. As the workplace conditions change, the way in which students apply this knowledge needs to change as well (Moll et al, 2005). However, the TVET College is meant to impact skills and knowledge about how to perform or even to execute a particular type of job. In 2005, the Minister of Education, Naledi Pandor, described the new government perspective in relation to Vocational Education Training (VET) as follows:

> *There will be a massive campaign to reform further education and training programmes to reinforce the institutional reform project started in our public further education and training colleges. This will involve better matching of the requirements of SETAs and the employers they represent with public institutions providing further education and training. The recapitalisation of FET colleges remains a priority to ensure the best articulation of our national skills strategy with the programmes provided by colleges. The recapitalisation will also require investment from the private sector and business. Higher Education programmes are being shaped increasingly through the funding formula and through the human resource development requirements of the country and access to programmes for scarce skills areas is*

receiving attention. The areas of teaching, science and technology have been identified for improved enrolment. Student assistance schemes will be refined and aligned to national development needs so as to address urgent skills requirements.

Untitled public address, Pandor (2008)

Based on what was articulated by the former Minister of Education, the TVET Colleges have a crucial role to play in the economy of the country. They are the essential part in providing tangible solutions to the challenges faced by South African industries relating to the skills shortages.

In construct, the Green Paper for Post-School Education and Training (2012), stipulates that the purpose of the TVET College sector is located within "a vision for a single, coherent, differentiated and highly articulated post-school education and training system (PSET)". This PSET system is supposed to "contribute to overcoming the structural challenges facing our society by expanding access to education and training opportunities and increasing equity, as well as achieving high levels of excellence and innovation (Green Paper for Post-School Education and Training, 2012). Correspondingly, this makes the TVET College to be an important aspect of the modern society, since it's expected to equip young people in the society with relevant skills for particular jobs. According to the Department of Education (DoE) (2012), the new Further Education Training system is expected to provide access to high quality education and training within a differentiated system, which will offer a wider range of learning options to a diverse range of learners, including school-going young people, out of school youth, young adults and the larger adult population.

2.3 Curriculum Design for Vocational Education

The new curriculum for FET is anticipated to overcome the outdated divisions between 'academic' and 'vocational' education as well as between 'education' and 'training.' Likewise, Rasool and Mahembe (2014) are of the similar opinion that the TVET College sector has a contributory role to play in overcoming poverty as part of a multi-pronged strategy of the state. They further articulate that it should involve creating access to education and training for the under-employed and poverty-stricken communities, especially in rural areas through a range of institutional types and programmes. For example, it does not encourage young people if they see someone who has been studying or has been trained at the TVET College working as a security guard or even a car guard, meaning that the importance of TVET in alleviating poverty

and getting access to job opportunities is that not visible. Thus, PSET emphasizes the quality of education and training which colleges are expected to provide at the TVET level. However, the issue of skills scarcity may not be properly solved if the causes or reasons are not clearly identified.

The curriculum plays an important part in the programme offered at the TVET Colleges. Hence, it will be worthwhile too look at what has been discussed by other scholars relating to the curriculum. Wang (2012) suggests that curriculum designers should consult various sources that play a crucial and major role in the development of the programme to choose the course within these sources. Bantwini (2010) contends that teachers engage their knowledge of daily conditions and experiences as lenses or window through which they view the new reforms. According to Blignaut (2007, 53) claims that "teachers interpret and react to policy according to what they have experienced in the past". While, Marsh and Willis (1999) suggest that teacher ownership can be fostered by involving teachers as curriculum 'designers' rather than 'implementers'. Teacher participation is, however, stimulated to be within a collaborative framework whereby the multiple viewpoints, experiences and collective expertise of teachers lead to curricular improvements across the educational programme.

Wang (2012) affirms that the Technical Vocational Education and Training (TVET) curriculum requires continuous renewal and constant involvement of stakeholders in the redesign process. Due to a lack of curriculum design expertise, TVET institutions, in developing contexts, encounter challenges maintaining and advancing the quality and relevance of their programmes to the needs of the labour market. Curriculum reformers, when planning a curriculum to be introduced, need to acknowledge that teachers or lecturers are most knowledgeable about the classroom environment, and knowledge they have acquired through the experiences that they have accumulated in the field. This view is supported by Jansen and Christie (1999) who claim that most teachers or lecturers have not been actively engaged with the implementation of new curriculum as it is imposed on them in top-down ways similar to the imposition of the apartheid curriculum. Likewise, Blignaut (2007) affirms, that nonetheless, the curriculum should be structured to include an integrated set of tasks and learning experiences. Curriculum Reformers need to have a clear understanding that the school does not operate in isolation, but it's also connected to other agencies of society that enhance the development of a child. One of the primary objectives of the teachers is to use culture and school curriculum for the development of a learner. Jansen and Christie (1999) suggest that the curriculum should also be specific to

the workplace, with the aim to enable students to apply academic knowledge in the future careers.

The mission of the National Skilled Development Strategy III is to access to high quality education and training and skills development. Similarly, the Ministry of Labour has, in the National Skills Development Strategy (NSDS 11), discussed the central responsibility of FET colleges in the delivery of skills sector imperatives. Colleges have been earmarked to respond to these national skills development imperatives in creative ways, asserting their role as preferred providers for the delivery of skills between 2005 and 2010 (DoL, 2005). This expressed importance of the sector in the national skills development context means that there is potential for the sector to increase its profile. There is also a necessity for colleges themselves to remove the initiative to yield their rightful place as a substantial component of the national skills development agenda.

These range from organizing individuals for initial access into employment; to additional training for those already employed; to the retraining of those who have been employed but who may have lost their jobs, or who seek new careers; to remedial vocational preparation for individuals who are, in some way, marginal or out of the mainstream work force, with little or no labour market experience and low levels of basic skills (Grubb & Ryan, 1999). The purpose of such a TVET system is to create opportunities for youth and adults to acquire skills, knowledge and values for lifelong learning. Similar arguments were also established in the Industrial Policy Action Plan (IPAP) (2012/13-2014/15), where the concern is over supply of lower and under-supply of intermediate and high skills qualification, where this could lead to poor or lack of sustainability in South African industries. One of the goals of the Skills Education and Training Authorities (SETA) is to address employers' skills demand and the SETA must be able to coordinate the skills needs of employers, according to the National Skills Development Strategies III. The above objective cannot be realised without a proper cooperation from the key stakeholders, including the DHET and National Skills Fund (NSF), training and workplace providers.

2.4 Nature of Skills Shortages in South Africa

In an attempt to understand the nature of skills scarcity in South Africa, it is imperative to first understand how the literature defines the term "skill shortage". The term 'skills shortage"

generally, can be understood as a point whereby demand for certain skills exceeds the supply. On the other hand, Trendle (2008) points out that the term "skills shortage" applies when the demand of skills of a particular work related category exceeds the supply of these skills. However, Shah and Burke (2003) associate the skills with professional qualifications or occupation. Barnow et al., (1998:198) offer the following definition.

> "A **skill shortage** occurs when any one of the following situations arises or combination of them; shortage of workers in a particular occupation, labour exceeds availability of skills or workers lack appropriate qualification."

Industrial skills shortage in South Africa remains an issue of most concerns Rasool and Botha (2011) argue that the inability of the education system and training to meet the gross growing demand of local industries for skilled graduates aggravates the situation. Trendle (2008) contends in his study, that there has been a subsidy of R9.5 billion provided by the government of South Africa for better delivery and expanding education and training colleges and skills development further.

According to Nzimande (2014), the list of national skills list consists of the occupations that have been identified as being in high demand. However, any occupation that is not listed does not mean it is not important since the list was drawn up national perspective. Artisans listed in the top 100 occupations Nzimande (2014) are in short supply. Van Rooyen et al. (2010:1), Breier and Erasmus, (2009:1) stated that it is crucial to have sufficient artisans, civil engineers, mechanical engineers, electrical engineers, plumbers, toolmakers and boilermakers inter alia, in South Africa, to enable infrastructure development, improve the standard of living, economic growth and wealth creation. Many studies continue to demonstrate evidence that the country faces a severe shortage of skilled people, which hinders government's capability to sustain the kind of development of economic growth which is necessary for the eradication of poverty in the country. Table 2.1 outlines some of the most crucial skills needed by the industries and which are mostly offered by TVET colleges.

Table 2.1: List of occupations in high demand: 2014

No	OCCUPATIONAL TITLE
01	Electrical Engineer
02	Civil Engineer
03	Mechanical Engineer
04	Physical and Engineering Science Technicians
05	General Medical Practitioner
06	Registered Nurse
07	Veterinarian
08	ICT Systems Analyst
09	Boiler Maker
10	Fitter and Turner
11	Carpenter and Joiner
12	Welder
13	Retail Pharmacist
14	Natural Science Teacher (Grade 10-12)
15	Plumber
16	Automotive Motor Mechanic
17	Toolmaker
18	Diesel Mechanic
19	Sales and Marketing Manager
20	Mathematics Teacher (Primary)
21	Metal Fabricator
22	Industrial Machinery Mechanic
23	Retail Buyer
24	Civil Engineering Technologist
25	Materials Engineering Technologist

Source: National Scarce Skills List, (Nzimande, 2014)

2.5 Impact of Skills Shortage in South Africa

Leibbrandt et al, (2010:4) maintain that skills shortage in South Africa develops social illness, particularly in townships and rural areas, whereas it also contributes to prominent levels of unemployment and unequal families. Thus, this illness according to Leibbrandt and the others (2010), negatively affects the levels of service in the private and public sectors. This argument is also supported by Wallis (2002) who indicates that skills shortage impacts work performance that is commonly owing to open vacancies that are offered by firms; declines the quality of customer service satisfaction; upsurges costs; and hampers or delays companies from development in the industry. The effects of skills shortage in South Africa result in various social impacts such as anger of rural area and township residents who live in unhealthy conditions due to a lack of engineers at the municipality level, the broken public telephones, as well as frequently overflowing sewage systems triggered by blockages and sudden cut off of water and electricity, and the disturbances of employers who cannot find eligible candidates to fill available positions in their firms.

Ploch (2011:13), Wallis (2002) and Weatherburn (2001:5) criticise the lack of skills and the high level of wealth disparity to be the results of poverty, crime and violence in South Africa. They also agree that most economists and political analysts approve that approximately 40% of South Africans, mostly Blacks, who live in squatter camps and townships in the country, exist in precarious and impoverished situations and have limited access to basic services such as electricity, sanitation, water and other social services that would make them feel that they are human beings in a country that is slightly well-off, while 15% of the poorest are implicated in a desperate fight for survival due to a lack of skills in the country.

Bohlmann (2010:1) indicates that South Africa is considered as the economic colossal of the continent of Africa, and Ploch (2011:1) states that South Africa is seen as one of the greatest unequal societies in the world pertaining the level of income sharing irrespective of its economic strength. According to Bohlmann (2010) and Ploch (2011), a majority of the citizens, mostly Blacks, live in poverty, whereas the major cities are enclosed by informal settlements. They also contend that, economically, a lack of skills restrict South Africa's economy from growing and contributing to high levels of unemployment and crime. When the economy of a country is not growing, or creating jobs, it contributes to large volumes of unemployment and poverty, and prevents the country from being competitive in the global market. This argument is also held by Bohlmann (2010:1) who reasons that the unavailability of a skilled workforce

restraints business growth. He also adds that skills shortage affect the country's social and economic development since investors are rather reluctant to invest, given the fragility of the South African economy.

2.6 Causes of Skills Shortages

The **low social status** of TVET graduates in South Africa. They are less confident about the outcomes of the TVET College programmes because it is being perceived as a low status qualification by most members of the community. For example, in Vietnam young people seem to lack interest for applying or being part of the TVET programmes because most people in their country tend to value managers and engineers (Japan International Cooperation Agency, 2014). This argument is further supported by Tshele and Agumba (2009) who revealed that quality and relevance of training, especially learnership and TVET programmes, are negatively affecting the skills supply pipeline. Consequently the industry has raised concerns about the quality and relevance of both practical and theoretical training learners receive from the TVET College. This is because of the community perception towards the TVET Colleges, especially in South Africa. For instance, most communities believe that colleges are suitable for learners who did perform well in Grade 12. Imagine a young smart, capable and passionate learner who would like to do a TVET programme but, due to the negative perception from the community about the TVET programmes, he/she might decide not to attend a TVET College. Hence, Afeti (2012) contends that, for many years, technical and vocational education in Africa has been viewed as a career path for students who are not capable of coping with an academic demand of other learning institutions. He further argues that the perception has been fuelled by the low academic requirements for admission into TVET programmes and the limited vision for technical vocational education and professional development.

Consequently, Akoojee and McGrath (2007), cited in Mateus et al., (2014) argue that another aspect that lead to skills shortage in South Africa is the **apartheid system**, where skills were profoundly socialised and gendered which left Black, particularly female Black South Africans in complete denial of access to skills development. Hence, Makgato and Mbanguta (2002) contend that South Africa is facing a severe shortage of professional engineers, professional technologists, and certificated engineers, engineering technicians and engineering artisans. The fundamental reason for this situation is the history of the South African higher education system, which has always been biased towards a specific population group, especially with regard to engineering and technological education. In other words, TVET brings that level of

equal skill where everyone will have access to the same training institution. As a results the TVET College serves as a transformation system to provide the needs of future labour markets. Some people may believe that the apartheid system impacted the level of access to imperative skills. However, that may not be reason for those who are called “born-frees”.

Insufficient knowledge in determining industrial skills needs. There is need to have a clear understanding and knowledge of what the industry wants and what they can offer as TVET college graduates. Such knowledge will minimise imbalances between skills demand and supply. Rainham (2007) argues that TVET colleges must strengthen links with industries to improve their network between academia and industries for each other to create a better understanding of each other’s needs. Uninformed learners tend to choose their careers or specialisation based on what their closest people such relatives, family and friends do, while it is not what is required by the industries at that time. Thus, the lack of knowledge may result in people having qualifications that are not beneficial to themselves and the nation as the whole. For example, one may find that, in a particular year, there has between large amount of students graduating with electrical certificates because they heard that Eskom needs electricians while the industry may need more of artisans and technicians, especially for infrastructure development.

Likewise, TVET students may have relevant information and sufficient knowledge about what they want to do, to meet the industrial needs. However, the TVET College programmes may not provide students with **practical work**. Moll et al., (2005) conducted a case study under a hospitality course where students were given six consecutive weeks of continuous in-service training at the restaurants or hotel kitchens and they normally say “We are so sorry we couldn’t have done so earlier because we’ve learned so many things about what industry is really like” (Moll et al., 2005:58). Some industries are reluctant to employ college graduates that don’t have experience in that field of work which makes it one of the reasons why skills shortages exist. Students lack motivation to proceed with TVET College programmes because it may not be easy for them to gain experience or there are no practical courses made available after the completion of theory knowledge.

However, industries do provide training for students once they get employed, Fluitman (2012) states that on-the-job training is an informal traditional form of training that exists and is routinely used for the pathway of skills acquisition for a new employee which is obtained through the process of learning by doing. Learning programmes designers should focus on

structuring programmes which will also benefit communities in order to be responsive as per the mandate of the TVET sector. Bringle and Hatcher (2006) also emphasises the importance of educating students for life as responsible citizen rather than educating them for a qualification. They both further argue that in order to overcome social challenges such as poverty and poor standard of living faced by the community, it is crucial to develop programmes which connect theory to practice. Combining both theory and practice could empower students with relevant industrial skills. According to the study done by Bancroft and Gamble (2008) one of the major crucial findings was that, many Colleges graduates in South Africa complete their programmes of study without gaining adequate practical knowledge that can enhance their opportunity to become employable to industries.

Inadequate attention to Mathematics and Science in school limits the supply of learners and cannot keep up with demand. The South African education system is not adequately producing learners with sound mathematical and science background. Consequently, few learners are able to enrol at traditional universities and universities of technology. This argument is supported by Fisher and Scott (2011) who reveal that international assessments have shown consistently poor performance in reading, mathematics, and science by South African school children, with the country's national average (302) on the last Progress in International Reading Literacy Study (PIRLS) in 2006 being the lowest national average of the 41 participating countries. Muller et al., (2014) are of the view that high level of skills shortages in South Africa is attributed to the fact that there is a very minimum pool of matriculates, who attain quality results on their matric, particularly in subjects like Mathematics and Accounting that usually gives them access to programmes like Engineering, Medicine and Accounting. Likewise, Merriam (2004) contends that skills shortage in South Africa is directly connected with the quality and quantity of education provided to the majority of South Africans, particularly in the past.

Inadequate attention given to Information Technology subject. The pace of change brought about by the advancement of technologies has had a significant effect on the shortages of industrial skills. Thorsteinsson and Olafsson (2015) contend that technological competence and understanding is important for students in understanding the changing world of today. They furthermore affirm that, as active citizens, it empowers them to play a part in the modification

of their surroundings. Caiazza and Volpe (2012) suggest that mature industries, like textile and agro-food, are mostly being identified by non-technological innovations concerning organisation and marketing. They further allude that there is a great need for such industries to transform to be able to maintain global competitiveness. Engelbrecht and Harding (2008) advocate that institutions of higher learning should introduce new learning and teaching approaches that prepare students to incorporate their personal objectives, career goals, and educational experiences so that students enter the workforce with the ability to apply the necessary computer skills. Caiazza and Volpe (2012) state that computers can be used in education to help to shift the focus of instruction from learning as teacher-guided to learning that is self-guided. They further explain that technological devices such as computers bring with them a constructivist conception of instruction which shifts attention from instruction as the imparting of knowledge to instruction as the guidance of socially-based exploration in intellectually rich surroundings.

Emigration of skilled South African professionals. The South African labour market is faced with the skills shortage due to skilled professionals leaving the country. Mateus et al. (2014) affirm the emigration of South African skilled professionals to foreign countries or other part of the world such as UK, USA, Australia, New Zealand and Canada. It also the contributing factor to lack of skills in South Africa. Crush and MacDonald (2002) share a similar view that the introducing of new policies caused by the new political dispensation (affirmative action) has resulted in the emigration of skilled professionals to other parts of the world, which has negatively impacted the South African labour market. This can be due to various reasons such as the pay rate, working conditions and government priority changes. Alam and Hoque (2010:535) and Fourier (2006:44-45) argued that there are several factors that contributed to a decline of skills in South Africa owing to the fact that numerous skilled professionals are lured by improved working conditions and career development prospects which are presented to them by developed nations. Other factors relate to crime, wage differentials, fear of the Aids and epidemics differences in quality of life, high unemployment rate, educational opportunities for children, unequal levels of education, intellectual freedom, low eroding wages and salaries and political stability. Furthermore, Crush and McDonald (2002:1) and Du Preez (2002) argue that both push and pull factors also lead to depletion or loss of intellectual and technical personnel, with a negative outcome that impacts the economic and social growth of a country.

Physical college environment. Some of the scholars stated that the campus environment can have an influence on the psychological mind of a learner. Schuetz (2005) believes that many non-verbal signals come from campus building designers, spaces, signage paths symbols and land-scaping. Such elements shape the psychological mind of a learner or student which then influence the emotions and interpretation and his/her behavior. Hence, that a campus can have an influence to retain the student within the college or to drive the student out of the college. Another study by Engelbrecht and Harding (2008) found out community college attritions were associated with students positive and negative perception in the administrative and instructional settings. Mohammadi (2001) affirms that attrition is influenced not only by institutional factors but also by external forces, particularly those related to the community in the immediate geographical environment in a college area of service. A non-conducive college environment and infrastructure availability and a College or Campus environment that is not positively corresponding with the vision of the college could hamper students' psychological ability to learn effectively Rapaport (1982).

2.7 Industries and Community Perspectives about TVET College Programmes and Graduates

According to FET Colleges (2015) website the public TVET Colleges offer a very wide variety of programmes which have been developed with the aim of responding to the scarce skills required by employers in different industries. Courses differ in duration from short course that take a duration of few hours to formal diploma courses with the duration of three years. The costs of the programmes vary considerably and it is important to note that almost 80% of the student total intuition cost are subsidised by the Department of Higher Education and Training. The remaining 20% is paid by the student. In contrast, Gunnestad and Thwala (2011) contest that skills that are offered at TVET Colleges, in most cases, are not appropriate for the skills requirement of industries. This shortcoming leads to a gap that is created. They further contends that industry based training can be seen as an alignment with company skills specification or requirements, while the challenges of the industry training is that South African Qualification Authority (SAQA) does not offer or approve accreditation on some certificates. Industry has not been extensively consulted on the design of the National Curriculum Vocational that was earmarked to replace the outdated Report 191 programme (NATED). It has been well received and industry lobbied DHET to re-introduce the Report 191 (N1-N3) programmes that has been

catering for industry needs. In an attempt to address the above challenges, the proposed study will also focus on the input that can be contributed by industries to ensure that the TVET Colleges provide curriculum that is responsive to industrial needs.

Lastly, there are full bursaries available as well. The FET Colleges' (2015) website further elaborates that Colleges offer numerous types of courses that are required by the industry, such as business, commerce, agriculture, arts and culture, management, education, training and development, engineering, manufacturing and technology, services, building construction and security. Table 2.1 provides some of the various type of courses that are available for students. The website stipulates the course type, description, duration, qualification level, funding method (resources) as well as the admission requirement. Due to the current crisis of skills shortage in South Africa the former Minister of Education stated "that as part of our plan for economic growth and social development, we have to ensure that the FET colleges are given a proper platform to contribute to South Africa's competitiveness. This is essential for us to create opportunities for economic participation for our youth. It is crucial that we should be internationally competitive in order for us to be able to retain our skilled youth" (Pandor, 2008). Hence, the national Department of Education to undertook a radical reviewing of a curriculum. In 2006, there was an initiative by the Department to replace the traditional NATED programmes (National Training Education Certificates) with a National Certificate Vocation (NCV).

The new programmes introduced at the start of 2007 were offered in 11 economic sectors: three engineering-related, five business allied, and various other programmes in information and communications technology, agriculture, tourism and hospitality. It was pointed out by the government that these programmes were designed with the intent of more closely aligning with the needs of business and labour in order to correspond more effectively with the economic needs of the country. However, McGrath and Akoojee (2007) outline that, after this replacement of NATED programmes more than 300 000 students who were already registered for these programmes have to be effectively disenfranchised from a qualification. Table 2.1 does not show a list of the courses available but only a description of the different categories of courses.

Table 2.2: Types of Courses

Course Type	**National Certificate (Vocational)**
Description / Definition	NC (V) programmes are delivered under the auspices of the Department of Higher Education and Training and quality assured by Umalusi. The programmes integrate theory and practice and provide students with a broad range of knowledge and practical skills within specific industry fields.
Duration	3 Years (1 year per level)
Qualification	Full Certificates on NQF Level 2, 3 and 4 NC(V) Level 4 Certificate is equivalent to National Senior Certificate (matric)
Admission Requirements	Grade 9 + college requirements set per programme
Course Type	**NATED / Report 191**
Description / Definition	NATED / Report 191 programmes are delivered under the auspices of the Department of Higher Education and Training and quality assured by Umalusi. The programmes consist of 18 months theoretical studies at colleges and 18 months relevant practical application in work places. Engineering studies range from N1 – N6 while Business and Utility Studies range from N4 – N6
Duration	1 Year for N1 – N3 Engineering Studies 1 Year for N4 – N6 Engineering Studies 3 Years (18 months theoretical studies + 18 months' workplace application) for N4 – N6 Business and Utility Studies
Qualification	N6 Diploma
Admission Requirements	Grade 9 for N1 admission Grade 12 for N4 admission
Resources	Bursaries available for financially and academically qualifying students

Course Type	Skills Programme
Description / Definition	These programmes are based on a cluster of NQF registered unit standards and are offered under the auspices of SETAs and quality assured by SETA ETQAs. Skills programmes can build up to a full qualification.
Duration	Specific to programme
Qualification	Part qualification with credit recognition towards full qualification
Admission Requirements	Specific to programme

Source FET website: http://www.fetcolleges.co.za/Site_Courses.aspx. [Accessed 25 June 2015].

***Quality of trainers*:** The study conducted by Makgato and Mbanguta (2002) investigated the pertinent factors involved in the preparation of lecturers of TVET Engineering and Technology Education within the Outcome Based Education (OBE). It was established that those systems of education that separate knowledge and its application have resulted in the delivery of vocational curriculum that is redundant and irrelevant to serve industrial needs and economic needs that can sustain national productivity and also uplifts the standard of living for inhabitants. Based on the above argument, it is therefore important to ensure that the system of education offered to students expose them to practical skills and interactions that are required. This is to integrate knowledge and practice in a workplace. Similar arguments are raised in the study conducted by Gunnestad and Thwala (2011) who contested that, in South Africa there is a huge problem regarding learning outcomes of (TVET) Colleges, since they are not compatible with industrial needs. He further states that, the qualities of FET graduates are not in accordance with the required level in the workplace. This is result of little collaboration with industry – collaboration with industry enables influence on the college Programme Qualification Mix (PQM).

From the above TVET programmes, industries and the community have their perception towards the programmes as well as the colleges. According to Nkosi (2012), there has been

scepticism about the credentials of academic FET lecturers saying that colleges should improve the quality of their lecturers. However, the colleges' failure to attract qualified and experienced lecturers and offer competitive salaries are perhaps, their most pressing problems. Students, who spoke to the Mail and Guardian (2012) said that the quality of lecturers in the colleges was a major problem. One student who is studying at a FET college in Durban and asked to remain anonymous for the newspaper, stated that most of the lecturers were inexperienced. "FETs take former students who've just ¬finished their N6 (the highest qualification received over 18 months) and who have never been in the field to gain experience and make them lecturers," said the student (Nkosi, 2012).

Young (2006) states that there is a teaching process for the FET Colleges where lecturers require a dynamic system of in-service training (in both content or curriculum matters and the methodology), but the situation is so severe that there is not even pre-service training for lecturers. Therefore, student performances on TVET programmes continue to be poor. One of the most pressing challenges identified by participants was that, at public TVET Colleges in South Africa, there is an inadequate supply of quality teachers. Inconsequently, less than 2 500 students completed the NCV programme in 2009 out of the 320 679 students who enrolled in 2007 (Centre for Higher Education Transformation, 2009).

Most employers undervalue the quality of TVET graduates because of the perception that the trainers, do not possess sufficient industrial knowledge. However, the failure of the TVET College to satisfy the needs of the industry is usually blamed on the quality and competency of teachers. Dalton and Smith (2004) add that vocational education is too broad, too time consuming and too involved to be taught throughout normal school hours. They also observed that a teacher's interest in building or forming a workplace relationship is hindered by wider curriculum demands and a high workload inside and outside the classroom. Industries remark that restrictions that hamper the TVET College lecturers involve financial issues, continuous change on government policies, organisational strains and the attitude of vocational educators towards the programmes or students. The TVET Colleges lecturers also have a crucial role to perform in order to equip their students with quality education that will make them eligible with the industrial skills demands. However, Fisher and Scott (2011) point out that the TVET sectors are already experiencing chronic shortages of competent and experienced lecturers and staff who successfully impact on the knowledge skills of the new National Curriculum Vocational (NCV). This argument is further supported by Botha and Oosthuizen (2011) who affirms that, previously many colleges' lecturers were qualified in technical, business and soft

skills related occupations. Currently, there are those that are either occupationally qualified or pedagogically unqualified or vice versa. Clearly, this complex situation will tend to hamper the TVET Colleges efforts to align their programmes to the industrial needs.

However, the community has its own beliefs and attitudes as far as the TVET programmes and graduates are concerned. In the past few years newspapers, such Mail and Garden reported that the perceptions about the colleges include the widely held belief that they offer substandard courses and that their graduates find it difficult to get well-paying jobs and to maintain job security (Nkosi, 2012). During the time when Mail and Guardian conducted interviews at the Central Johannesburg College, the principal, Motsumi Makhene, told the Mail and Guardian that "We've had an influx of students who were not able to gain entrance to the University of Johannesburg last week. This tells you that when prospective students receive their [matric] certificates they don't think about FETs, but only universities or Technicon's" (Nkosi, 2012). This shows that TVET colleges are mostly treated as a last option by most students who did not meet the universities' or Technicon's' admission requirements.

This is because communities perceive universities and technicons as high quality standard institutions. Gewer and Akoobhai (2012) emphasise the point that little has been done to prepare the college lecturers to be utilised for major productivity and efficiency in the TVET college system. They further raise some concerns that, the focus of government is in the pedagogical capabilities of existing staff and novice lecturers. Clearly this points out a serious challenge of delivering high quality of continuous professional development programmes for lecturers. The other concern put forward is the nature of the vocational programmes. Such programmes have been structured to link professional development programmes for lecturers with the improved quality of teaching and learning. The rationality about the continuous development of lecturers is further affirmed by Dalton and Smith (2004) who state that academic development provides lecturers with opportunities of upgrading their knowledge base and equips them with the skill to cope with the changing curriculum context.

Accreditation: Tshele and Agumba (2009) argue that accreditation of some of the academic programmes offered by the TVET college are not recognised by other professional bodies in the relevant field. The Engineering Council of South Africa (ECSA) and the Certification Council for Technicon's (SERTE) have raised concerns about the quality of programmes and

learnership offered at the TVET College. Mukora (2011) contends that TVET College students have not responded effectively to the skills shortage crisis since employers from industries perceive that college students who have gone through these courses were not acquiring the kind of skills industries desire. He further maintains that TVET colleges are not providing enough access to workplace experience. Therefore, there is an increase in the pool of the number of graduates who are unemployed.

The curriculum, therefore, needs to address the needs of the learners, industry, and community or society. The perceived aim of TVET institutions has moved from not only socialising learners into knowledge appreciated by the community, but also to enabling learners participation in their own cultural transformation and adjusting to imminent changes that their societies will experience (Munro, 2007). Van Rooyen et al. (2010) advocate that, from an industrial perspective, businesses nowadays are more responsive, horizontal flexible and team based. Fisher and Scott (2011) state that such organizations require that graduates should be creative, innovative and that they are able to survive and manage change within their field and are capable of adapting into organizational cultures. They also insisted that individuals should not base their performance only on clearly defined responsibilities and roles. Rather, their roles in these new modes of organization will be established by their own contribution to the achievement of specific objectives. The study conducted by Ngure (2013), in Kenya, revealed that the task analysis on defined performance targets, identifies training activities, and determines the level of knowledge, skills and proficiencies that aid in productively performing these tasks. Individual analysis was based on job requirements and skill levels of the current workforce without showing interest in growth. Table 2.3 below outlines some of the employers' experience and opinions concerning the TVET College graduates.

Table 2.3: Industries' Perceptions

Industries' positive perceptions	**Industries' negative perceptions**
• Graduates are better than the others in terms of valuing the principles, theories as well as ethical deliberations that are necessary for the profession. This	• Graduates demonstrate inadequate practical knowledge and limited hands-on experience with certain models of vehicle, particularly the new models.

qualifies them to negotiate for business in simplicity. • TVET is the good starting point towards the profession. However, there is a necessity to refocus on the curriculum to fully meet industry needs. • Graduates of TVET can be relied upon, to some extent, to get things done with minimal or no supervision. • Their creativity and innovation assist them to have the ability to learn fast and they are business minded because they use the most efficient means to get the task done. • They are prepared to take up challenges and solve problems by themselves, ensuring a progressive career pathway for them.	• Some of the graduates are scared when they meet new challenges such as new models of vehicle which use more sophisticated equipment (e.g., computerised diagnostic kits). • The TVET graduates cannot "stand on their own" without assistance until such a time that they are fully accustomed with the finer details of the task or business. • TVET graduates wasted a lot of time on retraining once they get into the work field. • They still require a lot of "baking", since the graduates are half-baked.

Source: (Ngure, 2013)

Ngure (2013) contends that the purpose of TVET ought to be to motivate youth to contemplate and explore the option of being entrepreneurs in the future, and to provide practical and essential information about the opportunities, challenges, procedures, characteristics and attitudes needed for entrepreneurship. He further elaborates that TVET should develop positive attitudes concerning sustainable enterprises and self-employment amongst TVET graduates while they are still in the training institutions by making students aware about entrepreneurship as a career option at the training level. Self-employment would help and avoid graduates' frustration when they don't get employment.

2.8 Stakeholders' Intervention Fighting the Shortage in South Africa

The introduction of the Joint Initiative for Priority Skills Acquisition (JIPSA) was launched during March 2006 by the Deputy President, Phumzile Mlambo-Ngcuka, stating that "nothing short of a skills revolution by a nation united will extricate us from the crisis we face" Mlambo-Ngcuka (2006:1). The initiative aimed to improve economic growth through the response to skills shortage using educational interventions and plans to acquire skills from abroad. JIPSA is a hefty 3-year project that is charged with, among other things, identifying skills shortages, removing blockages to skills development, supporting fast-track training, building partnerships with training institutions to encourage the production of more graduates who meet public and private sector needs, and rapidly acquiring scarce and priority skills, including graduates from abroad and from the African diaspora. JIPSA was established in 2006 as an initiative of the Accelerated and Shared Growth Initiative (AsgiSA) for South Africa, to deal with the supply of priority skills in the economy (JIPSA, 2006). The policy identified the succeeding five priority skills areas to be concentrated on:

a) High-level, world-class engineering and planning skills for the "network industries", namely, transport, communications, water and energy;

b) City, urban and regional planning and engineering skills;

c) Artisanal and technical skills, with priority attention to infrastructure development, housing and energy, and in other areas identified as being in strong demand in the labour market;

d) Management and planning skills in education and health; and

e) Mathematics, science and language competence in public schooling.

(Extract from: Mlambo-Ngcuka, 2006:1)

Moja (2004) reasons that to position South Africa to operate effectively in the global economy, it would be essential for the higher education system to be transformed in ways that would make it responsive to globalisation challenges. This responsiveness has at times been wrongly interpreted in the Africanisation debate to mean meeting global needs at the expense of local needs. According to Moja (2004), the objective is not to serve external needs but rather to prepare human resources that make the country a partner in a globalised world. The globalisation versus Africanisation debate leads to polarized positions that are not helpful in positioning higher education to be receptive to the global knowledge society. Mlambo-Ngcuka

(2006) indicated that AsgiSA was aimed to introduce a new structure that was dedicated to skills development through: the introduction of high-level engineering and planning skills for infrastructural development, the cities, urban and regional areas planning and engineering skills for local and provincial governments will be improved, the artisans, technicians, teacher training for mathematics and science, especially for infrastructure development. AsgiSA also designed for management and planning skills especially in the social sectors and for local government skills for the priority sectors, in project management, general management and finance (Mlambo-Ngcuka, 2006).

2.9 Summary

In this chapter, an analysis of the TVET College in enhancing the skills level of young South Africans has been presented. The chapter also outlines the causes of skills shortages and types of skills shortages that exist in South Africa. Literature also reveals that the majority of the TVET college graduates struggle to find employment. Hence, the quality of programmes is still a major concern for most of the industries. The review of literature presented in this chapter is important because it also outlines intervention strategies from the government to combat the issue of scarcity in industrial skills. The next chapter focuses on the research methodology of this study.

CHAPTER 3
RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

Chapter one lays an important background on this study. The main aim of this chapter was to investigate the role of the Majuba TVET College programmes in addressing industrial skills shortages in Newcastle and its surrounding areas. In chapter two, an in-depth literature on the study was conducted on the role of Technical Vocational Educational Training (TVET) in addressing skills shortages, and other themes included causes of skills shortages, perception of industries and the community about the TVET College programmes and graduates and the nature of skills shortages that exist in the South African context. This chapter is devoted to a comprehensive description of the research design and methodology that was employed in this study in terms of data collection strategy, population, validity and reliability of research, sampling techniques, sample size used and data analysis.

3.2 Research Design, Methodology, Data Analysis and Ethical Issues

3.2.1 Research Method and Methodology

Researchers have to decide the most appropriate approaches to use when they are carrying out their study, i.e., qualitative, quantitative or a combination of both methods. Fraenkel and Wallen (2007) outline that qualitative research provides a researcher with an opportunity to obtain a more clear picture of what is happening in a particular situation.

Mouton (2004) explains that the qualitative method operates from an underlying assumption that the qualitative researchers are concerned mostly with process rather than outcomes or end result of a product. He further contends that in this enquiry the initial curiosity is mostly derived from the real world observation.

Likewise Gay, Mills and Airasian (2006) share similar view that qualitative research seeks to examine deeply a research setting in order to gain a clear understanding about the way things are, why they are that way, and how participants in that applicable field or context view them. Hence the researcher aims to obtain detailed information about the role of the Majuba TVET College programmes from the participants of the study.

3.2.2 Research Methodology

The best possible way to answer the research questions in the study is through the use of case study methodology. According to Bertram and Christiansen (2014), the case study is a systematic and in-depth study of one particular case in its setting. They explain that a case may be a person, group of individuals, a school, a community or an organisation. In this study, a case is the Majuba TVET College, with its academic programmes that is offers. Cohen et al. (2011) state that a case study provides a unique example of real people in a real situation , enabling readers to understand ideas more clearly than simple by presenting them with abstract theories or principles. They further believe that case studies can penetrate situations in ways that are not always susceptible to numerical analysis. The main reason why the researcher decided to choose the case study method is that the Majuba TVET College is a unique institution which is solely designed to develop and enhance the industrial skills in the huge area of the Amajuba District Municipality. This approach was very useful and relevant since the researcher was planning on collecting data through the use of semi-structured interviews.

Bertram and Christiansen (2014) state that the main aim of case studies is to describe "what it is like" to be in any particular situation. The researcher has found it possible to employ this nature of research methodology since he is located in a bounded entity in which academic programmes are investigated. Mouton (2004) explains that, when the data has been gathered, it must be carefully measured and filtered so that fiction and subjective views are eliminated. He state that biasness is a major area of concern when it comes to the case study approach and one has to keep this in mind at all times. Thomas (2011) contends that it is important for researchers to try to transcend some of their own biases with the application of method they use in the process. The data must bear weight of any interpretation. He further clarifies that, for this to occur, the researcher must confront his or her own opinion and prejudices with data. It is worth noting that most of the opinions and prejudices are superficial. Patton (2002) has suggested the following techniques in dealing with bias:

- A researcher could record detailed field notes which include reflection on the researchers own subjectivity. Hence, this could allow a researcher to voice his own prejudices openly so that it could be challenged by others. Alternatively, this could be done by introspection and analysis;

- Data can be reviewed by others to indicate researchers personal style; and

- Some other researchers may work in teams on the data collection phase and may have their own field notes critiqued by colleagues as an additional means to assess bias.

Thomas (2011) contends that there is no intimation in the case study that the researcher may be generalising from this case to others. He goes on affirming that, as a researcher one is not studying this case to understand others, but one is studying it in order to understand it in itself. This affirms the purpose of this study, i.e., to seek an in-depth understanding on the effectiveness of the Majuba College programmes to address the industrial skills shortages. Cohen et al (2011) claim that in a case study, a researcher makes direct observations and conducts interviews with the participants. They stated that case studies strive to portray 'what is like' to be in a particular situation. Likewise, Robson (2002) expands this claim by stating that case studies give a thick description of a situation, live experiences, feelings and thoughts of a particular situation. Cohel e. al (2011) establish that it's important in case studies for situations and events to be allowed to speak for themselves rather than to be largely interpreted, evaluated or judged by a researcher.

3.2.3 Research Design

Babbie and Mouton (2001) explain that a research design is a plan or blueprint which the researcher intends to perform or conduct in his or her studies. A similar argument is also raised by Kumar (2005) who argues that a research design, in general, can mean the plan that the researcher adopts to answer the research questions successfully. He further contends that, however, there is no uniform research design applicable to all qualitative approaches.

The researcher has employed the qualitative approach because the phenomenon under investigation is the effectiveness of the role of the Majuba TVET College programmes in responding to industrial skills shortages. The researcher has adopted this method since it's viewed as the most interactive method of enquiry during which a researcher collects data in face-to-face situations by interacting with the selected participants. Human life cannot be observed on an individual basis, but it can be meaningfully viewed by considering individual's experiences, attitudes, values, and norms (Creswell and Plano, 2007). Hence, this study is situated in the interpretivist paradigm.

3.3 Research Objectives

As it was outlined in the first chapter of this study, that the objectives of this study are to:

- Investigate kinds of skills shortages that exist in the industries of Newcastle and its surroundings;
- Examine programmes that are being offered by the Majuba TVET College to address industrial skills shortages in Newcastle and its surroundings;
- Determine how these programmes aim to address industrial skills shortages in Newcastle and its surroundings;
- Examine characteristics of programmes that have contributed to reduced skills shortages in industrial development of Newcastle and surroundings;
- Assess how these programmes are going to be improved so that the skills shortages can be reduced in the industrial sector of Newcastle and its surroundings.

3.4 Location and Participants of the study

3.4.1 Location background

The Amajuba District Municipality is located in the north-western corner of KwaZulu-Natal and comprises three local municipalities: Newcastle, eMadlangeni and Dannhauser (Local Government, 2015). The main transportation routes linking the district to its surrounds are the N11, which is the alternative route to Johannesburg from Durban, and the rail line, which is the main line from the Durban harbour to Gauteng. The R34 also bisects the district in an east-west direction and provides a linkage from the port city of Richards Bay to the interior. The Amajuba District has numerous towns such as Charlestown, Dannhauser, Hattingspruit, Newcastle and Utrecht as illustrated in Figure 3.1

FIGURE 3.1: Map of Newcastle and its surroundings

According to Local Government (2015) the district has four main economic sectors: Manufacturing (35%), community services (22.2%), financial and business services (15.2%), and trade (8.6%). Manufacturing is the largest contributing sector within the district economy, contributing approximately 25.2% to the district's total gross value added. According to Amajuba District Municipality: Review of the Led Strategy, (2011) manufacturing activities in Amajuba include metal production, chemicals and plastics, pharmaceuticals, clothing and textiles, food and beverages, leather and footwear. Metals, metal products and machinery form the largest industry within manufacturing in the district, contributing almost 45% to total gross value added, and 30% to total employment within the industry (4334 employees). Table 3.1 presents the challenges faced by the Amajuba district.

Table 3.1: Challenges of Amajuba district

Labour Market	
Unemployment rate (official)	39.10%
Youth unemployment rate (official) 15-34	50.30%
Education (aged 20 +)	
No schooling	8.00%
Higher education	9.40%
Matric	30.90%

Source: Local Government (2015)

In terms of racial distribution, an overwhelming majority of the district's population (97%) is Black Africans. These figures do not change fundamentally when household distribution is considered. African households account for 89% of the population while Whites contribute 7%. On age distribution, almost two thirds (62.4%) of the population are under 29 years and roughly similar number represents those aged between 15-64 years. This leads to the assumption that the majority of the population falls in the working age category (Amajuba District Municipality: Review of the Led Strategy, 2011).

According to Amajuba District Municipality: Review of the Led Strategy, (2011), the Amajuba district was challenged by certain factors such as lack of support for small-scale and informal business operations; lack of relevant skills and training programmes; access to markets; access to funding for investment into new machinery and equipment; high costs and foreign competition and poor institutional support and assistance in the region

3.4.2 Population and Sampling

Bryman and Bell (2007) state that population has a broader meaning which is different from everyday use of the term and whereby it inclines to be related with a nation's entire population. In addition, they also point out population as any individual or group is part of the subject of research interest. Cooper and Schindler (2011) define population as a group of elements on which one wishes to make some inferences. On the other hand McMillan and Schumacher (2001), define population as the collection of elements or cases in respect of which the individual objects or events conform to specific criteria and from which the researcher intends to extract the results of the study undertaken.

Thus, for the purpose of this study the targeted population chosen was the Majuba TVET College and Newcastle local industries. The study was geographically confined to Newcastle, a town situated in the Northern part of Kwazulu-Natal. Thus, the sampling was based on the Newcastle and Amajuba District areas; and the Majuba TVET College where skills programmes are offered. In this research, reference to Majuba TVET College is made in light of it being the supplier of skills and the industries that demand the skilled people in their production processes. Therefore, two industry representative and five Majuba TVET College representatives were chosen among the population in the vicinity of Amajuba District.

3.4.3 Sampling Strategies

Denscombe, (2014) defines a sample as a subset of a population that is considered to be representative of the population. Qualitative research usually requires to draw a representative sample based on non-probability and purposive sampling rather than on probability or the random sampling approach Dewalt and Dewalt (2002*).* Ball and Forzani (2007) cited in Cohen et al. (2011) claims that purposive sampling is more effective in accessing knowledgeable people, such as those who have in-depth knowledge about the particular issue, maybe by virtue of their professional role, power, and access of the networks, expertise or experience. In this study, data were gathered by the researcher from seven stakeholders: Rector, Deputy Director of Academic, two representatives of local industries of Newcastle. These stakeholders are the most crucial elements of the TVET in terms of training and development of skills, knowledge that are required by the industries. Majuba TVET College situated in the midst of various manufacturing industries and service activities that deal with different the classification of various products produced. Since, the scope of this study could not accommodate all the other industries, the selected industries were therefore based on the diverse skills and knowledge needed in these specific industries. Metal and Steel industries were chosen because of the diverse skills and knowledge needed to survive and remain profitable in the respective industry. On the other hand Clothing and Textile industries was chosen because of the predominance of the industry in Newcastle. In addition, senior management and council members of the college were chosen because of their direct or/and indirect involvement in the curriculum and academic matters of the college. Therefore the researcher in the study under review purposively chose the optimal (convenient) sample that will maximize on the possibility of obtaining the relevant data.

3.4.4 Choosing Participants

The Majuba TVET College where the study was conducted as well the participants were selected purposefully as explained above was Majuba TVET College. The purposive sample consisted of a sample that comprised three members of senior management, two representatives of local industries situated in Newcastle and the council College members.

a) Rector of the College

The rector was chosen because of his experience and his involvement in vocational education and training. The rector, before he was appointed as the college rector, was a former council member of the college. Furthermore he was previously a District Director in one of the KZN Department of Education Regions.

b) Deputy Director of the Academic

The Deputy Director of Academic was interviewed as it is perceived that she is fully responsible for academic development and also for providing guidance and collaborates with the staff representative to evaluate the effectiveness of programmes offered by the College.

c) Curriculum Developer/ Planner

This individual was included in the study because he is also responsible for developments in the curriculum content, training activities. He is also tasked with the responsibility of communicating with industries to develop and formalize the quality of training and outline industry skills that are currently on demand.

d) Members of the Council

Two members of the council were selected to be interviewed. These interviews assisted the researcher in to establishing an understanding of their duties to support the development of academic programmes and also to be enlightened about their effort to improve the training that TVET College students need to address skills imbalances in the industry of Newcastle and its surroundings.

e) Representatives of local industries

Another issue of concern was to obtain a view or perception of local industries about the academic programmes and level of training that the College offered to their students. Also it was crucial for the researcher to establish the level of involvement and relationship that the college has with local industries. Furthermore, it was important to ascertain the level of commitment from an industry perspective in providing career guidance and counselling to school leavers in order to ensure that their career advancement satisfy the demand.

3.5 Data collection strategies

The data collection method should address the problem at hand that the study is trying to investigate. According to Johnson and Christensen (2012) qualitative researchers need to be meticulous when selecting the data collection method, and to keep in mind that the ultimate aim of qualitative study is to explore, understand, and describe human experience and perception and not to measure quantity, predict and generalize, as quantitative researchers often do. With this in mind, the researcher will begin by presenting various frameworks that are appropriate for collecting data in the qualitative research study.

Kumar (1999) indicated that there are two major approaches that can be adopted when gathering information about a situation, person, problem or phenomenon. He outlined two approaches that can be used to gather information. Data can be classified as follows:

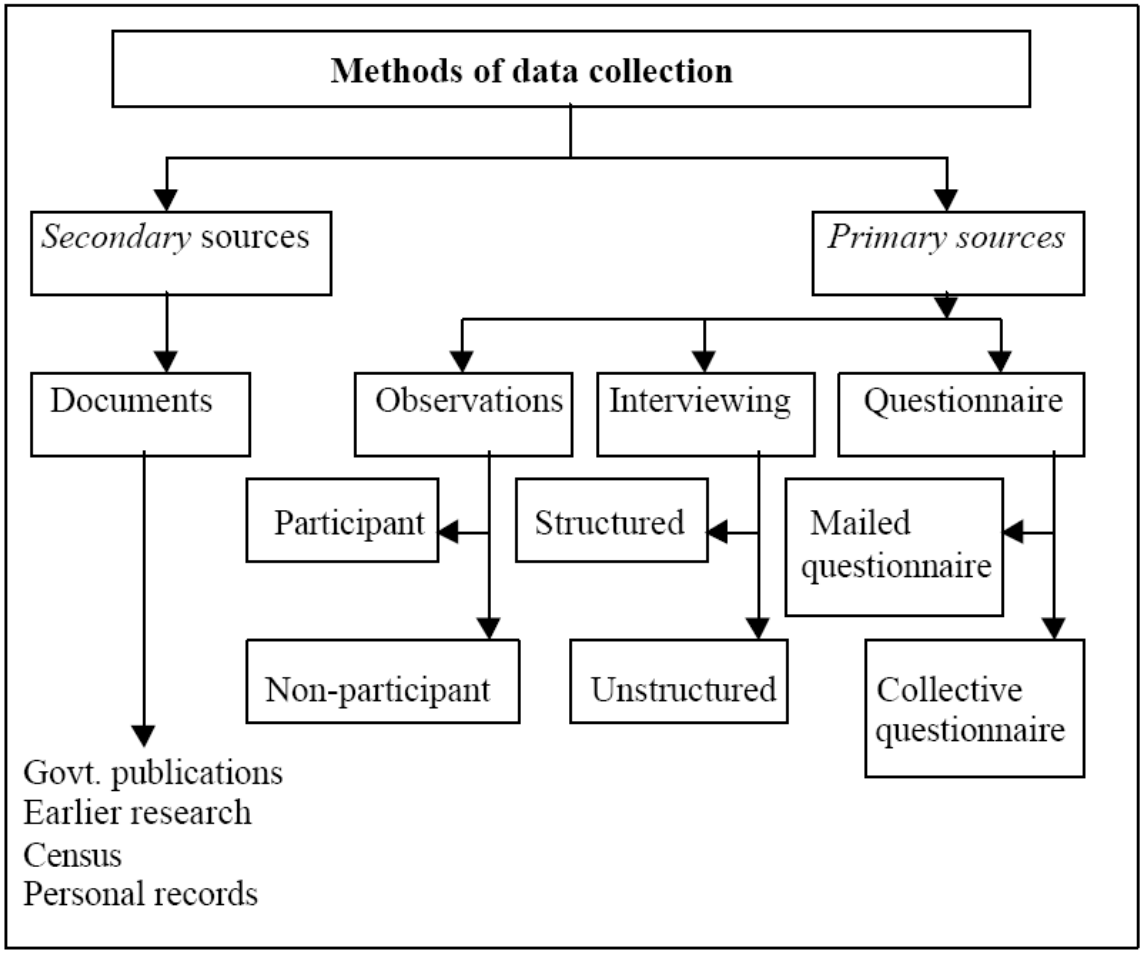
- Primary source; and
- Secondary source.

Primary source - could include interviews and eye-witness.

Secondary source - Includes published journals, books, databases and online sources.

Method of collecting data are shown in Figure 3.2

Figure 3.2: Method of data collection



Source: Kumar (1999: 104)

Moreover, Cooper and Schinder (2011) argue that qualitative researchers draw data from variety of sources such as:

- Events and happenings (textual, visual, sensory);
- People (individuals or groups); and
- Organizations or institutions.

The researcher of this study has established the appropriate instruments to measure attitude and perception on the part of College senior management, local industries and TVET College

lecturers. For the purpose of these qualitative interviews, open-ended questions and observations were used as data collection methods.

3.5.1 Interviews

Cohen et al.; (2011) affirmed that the interview is a flexible tool for data collection on qualitative research. The interview allows participants to provide informative responses. The participants are given enough time to reflect on the questions and situations carefully before they can respond. Cohen et al.; (2011) point out that there are various types of interviews for qualitative research. The usefulness of interviews will be determined by the fitness and the purpose of the study. For example, Maykut and Morehouse (2000) contend that a structured interview is useful when the researcher is aware of what she or he does not know, and, therefore is in a good platform to probe questions that will supply the necessary knowledge required. On the other hand the unstructured interview is useful when the researcher is not aware of what he/she does not know, and therefore, he or she relies on the respondent to tell him or her.

Different types of interviews:

- Standardized interviews (open-ended)

The standardized survey interview is designed for gathering data to measure the intentions, actions, and attitudes of large numbers of people, usually representative samples of the populations being studied. Measurement must be carried out in such a way that measures can be aggregated to describe the population. According to Punch, (2005:213), “the standard for the success of a survey is how well the data measures the aspects of the population the researchers are trying to describe.

- In-depth interviews

Bernard (2002) refers to in in-depth interview as a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme, or situation. The goal of the in-depth interview is profound in exploring the respondent's point of view, feelings and perceptions. In-depth interviews can be examined to obtain preliminary information that can be manipulated to develop more concrete findings.

- Structured interviews

In the structured interviews, each participant is asked the same questions using the same wording in the same order as all other participants (Corbetta, 2003). The strength of the interview is that it is efficient with regard to time, and it limits the researcher's subjectivity and bias. The researcher controls the topic and the format of the interview which consumes less time and makes it easier to code and analyses data. Thus, structured interview are widely used in quantitative research.

Focus group interviews

- Semi-structured interviews

The main aim of an interview is to facilitate the interviewees to share their perspectives, stories and experiences concerning a particular social phenomena being observed by the interviewer. The participants, who are the experts in their field, will pass on their knowledge to the researcher through the conversations during the interview process Boeije (2010). Semi-structured interviews allow or encourage the depth and vitality which help new ideas from the participants to emerge and which also increases the validity of the study.

- Ethnographic Interviews

Bernard (2002) talks about ethnographic interviews based on the level or structure and/or control that the researcher is able to provide to the interview process. The less structured or controlled interview, he indicates that as informal, which he characterizes by a total lack of structure or control, but that the ethnographer simply tries to remember and record conversations during the day Dewalt and Dewalt (2002). The next type of ethnographic interview in terms of structure is the unstructured interview, which is based on a clear plan that the ethnographer constantly keeps in mind. At the same time, the ethnographer maintains a minimum of control over peoples' responses, with the purpose of getting people to open up and let them express themselves in their own terms, and at their own pace.

- Unstructured interviews

Punch (2005) describes unstructured interviews as a technique to understand the complexity of people's behaviour without imposing any a priori categorization, which might impact the field of inquiry. Patton (2002) describes unstructured interviews as a natural extension of participant observation, because they so often occur as part of ongoing participant observation fieldwork. He argues that they rely entirely on the spontaneous generation of questions in the natural flow of an interaction. While the definitions are not the same, there is more agreement about the basic characteristics of unstructured interviews. The researcher comes to the interview with no predefined theoretical framework, and thus no hypotheses and questions about the social realities under investigation (Punch, 2005). The decision to use unstructured interviews as a data collection method is governed by both the researcher's epistemology and the study's objectives. Researchers making use of unstructured interviews often hold a constructivist point of view of social reality and correspondingly design studies within an interpretive research paradigm

Interviews are a systematic procedures of talking and listening to the respondents and are characterized as the most effective and scientific tool used in qualitative research. Likewise Johnson and Christensen (2012) explains interviews as an interchange of views between two or more people on a topic of similar or mutual interest, sees the centrality of human interaction for knowledge production and emphasizes the social location of research data.

Kvale and Brinkman (2009) outline the following key characteristics of qualitative research interviews:

- Be able to reveal and explore the nuanced description of the lifeworld's of the participants;
- Accept that the interview may provoke new insights and change in the participants themselves;
- Accept the ambiguity and contradictions of situations where they occur in participants, and determine if this is a fair reflection of the ambiguous and contradictory situation in which they find themselves; and
- Be positive and enriching experience for all participants.

For the purpose of this study, semi-structured interviews were selected since they provided in-depth information on the matter being investigated. One-on-one interviews with the Majuba TVET College Council members were arranged in advance as these members as the majority

of them are full-time employees in their different fields of specialization. Appointments were arranged at the convenient times suggested by these Council members.

Each interview lasted for at least half-an-hour. Furthermore, the appointments with senior management of the TVET College were done telephonically during the day. The permission to use the venues of the College was requested in advanced from the Rector. The participants preferred that interviews be held at Majuba TVET College central offices since they felt that the central office venues had fewer distractions. Each interview was scheduled for an hour for each participant, i.e., the Rector, Deputy Director of Academics, and the Curriculum Manager of the College. Furthermore, a semi structured interview was conducted with the management of local industries at Newcastle in order to gain their views, and to explore their ideas and reasoning regarding the academic programmes offered at the Majuba TVET College. The researcher decided to use more than one informant on this investigation to strengthen the validity of the study.

The objective of the interviews was explained to each participants and the information needed was made available to each interview before the actual process of interview. Interviewees were made aware that they will be audiotaped and video recorded during the interview for the purpose of the accurate description of the verbal interaction. All interviewees agreed to it.

3.5.2 Observations

Thomas (2011) points out that observation is the most essential way of collecting data in social research. He further explains that observation means watching carefully, as a researcher. This can be done in different ways depending on the approach chosen. The different types of observation are the follows:

- Structured Observation: This form of observation is employed by a researcher when he or she has a very clear idea of what he or she is looking for. This form of observation will have the observation categories worked out in advance.

- Unstructured Observation: This form occurs when a researcher does not go through a check list ticking off boxes or rating particular activities. However, the shortcoming of this method is that it is not possible for a researcher to capture everything that happens in a particular situation in his or her mind.

- Non Participant Observation: This form occurs when participants may or may not have been that a research is being undertaken .This is usually carried out by a researcher in an unobstructed manner.

- Participant Observation: It occurs when a researcher takes on an insider role in a phenomenon being studied. The researcher joins everyday routines of a participants of the study. It worth noting that on this form of observation a researcher will usually stay in a situation for a long time, and participants should get used into her or his presence.

For the purpose of the study, participant observation was employed. Dewalt and Dewalt (2002) define participant observation as the process enabling the researcher to learn about the activities of people under study in the natural setting through observing and participating in those activities**.** Schensul, Schensul and LeCompte (1999) add on this understanding by explaining that participant observation is the process of hearing through exposure to or involvement in the day-to-day routine activities of participants in the research settings.

Bernard (1994) offered the following reasons for using participant observation in qualitative research.

- It make it possible to collect types of data, while one is on site;
- It reduces the incidence of "reactivity" or people acting in a certain way since they are clearly aware that are being observed;
- It assists the researcher to develop questions that makes sense in their native language;
- It gives a researcher a better understanding of what is happening in the actual context; and
- It is sometimes the only way to collect data for the purpose of the study.

In this study, the researcher was a participant-observer in order to gain a clear understanding of how things are planned, organized and prioritized regarding the programmes offered at the Majuba TVET College. The researcher is the lecturer at the Majuba TVET College and, therefore, was able to interact with the participants.

Information on the academic programmes could be best obtained through observation of the curriculum designed. The researcher was able to discover and present other important factors for a comprehensive understanding of the research study.

3.5.3 Trustworthiness of the Research Findings

Koonin (2014) advocates that the trustworthiness of qualitative research findings consist of the following components:

- Credibility
- Transferability
- Dependability
- Confirmability

3.5.3.1 Credibility

Credibility refers to the accuracy with which the researcher interpreted the data that were supplied to him or her by the participants Eraut (2004). Creswell (2012) affirms that the data is considered to be credible if it is trustworthy and the results can be verified. In an attempt to address credibility, the researcher has spent much of his time with the participants of the study since most of them are college employees, and the researcher is also a staff member of the college. Eraut, 2004) argues that credibility is increased when the researcher spend much of his/her time with the participants in order to get a crystal picture of the phenomenon under scrutiny.

3.5.3.2 Transferability

Refers to the ability of findings to be applied to a similar situation and deliver the same results (Eraut, 2004). Schofield and Matthews (2009) outline that, in qualitative research it's imperative to supply clear, informative and in-depth descriptions so that the readers are able to decide on the extent to which findings from one piece of research are generalizable to another situation. The researcher of this study provided sufficient data on the views of the participants about the role of the Majuba TVET College in responding to industrial skills shortages. It could be upon the readers to determine whether similar findings can be used to other cases.

3.5.3.3 Dependability

The objective of dependability is to ensure that the same study conducted will result in similar findings and conclusions Creswell (2012). The data collection tools applied in the study

(interviews and observations) contribute to the audit trial. The manner in which this study were conducted from the beginning to the end was constant. Furthermore, the input and suggestions from more knowledge people was constantly asked.

3.5.3.4 Conformability

It refers to how well the data was collected to support the findings and interpretation of the research. Babbie and Mouton (2001) explain conformability as a qualitatively-oriented criterion which indicates that the product of the inquiry does not have researcher biases.

In ensuring that biasness is eliminated, the researcher, asked the participants to check what was recorded by the research before any document was published original interviews (transcripts) were sent to participants to check data. The researcher did pay attention to issues of social class, race, religion and gender. Furthermore, to avoid bias in this study, the researcher involved the qualitative analyst to review transcripts and critique the researcher's transcripts and interpretation.

Poggenpoel and Myburgh (2003), state that when the researcher is involved as an instrument to the study, the researcher can be the greatest threat to trustworthiness, especially in qualitative research, if time is not spend on preparation of the field, flexibility of the researcher, the researcher staying humble and preferring to work in a team so that triangulation and peer evaluation can take place. Baker (1994) further elaborates that challenges may not only jeopardize or threaten the quality of a study. It may also prevent a study from being conducted in a professional manner if the protocol encompassing an open - ended interview procedure cannot secure approval of the findings.

Mehra (2002) states that the role the researcher serves in this arrangement also raises concerns regarding bias. Poggenpoel and Myburgh (2003) suggest that the possible reasons for this bias can include:

(a) The researcher's attitude could jeopardize the true value of data obtained and information obtained from data analyses;

(b) The researcher not being sufficiently prepared to conduct the field research; and

(c) The researcher conducting inappropriate interviews.

In addition to these reasons, the degree of sympathy that researchers have with the population under the study, including researchers being members of the group themselves, can introduce a question of bias in the study Mehra (2002).

However, Polit et al., (2001) suggest that the normal procedure for testing the quality of an interview code of behavior and for identifying potential researcher biases is the pilot study in which investigators try out their proposed methods to see if the planned procedures perform as envisioned by the researcher. Thus, the term pilot study is mostly used to describe two different aspects in social science research. It can be used in the context of so-called feasibility studies which are "small scale version[s], or trial run[s], done in preparation for the major study". A pilot study can also be pre-tested or 'tried out' by a particular research instrument testing the ethical values of the researcher involved in the study. One of the advantages of conducting a pilot study (Baker, 1994) is that it might give advance warning about where the main research project could fail, where research protocols may not be followed properly or whether proposed methods or instruments are inappropriate or too complicated. In pilot studies, investigators give their research method a “test run” by piloting their means for collecting and analyzing data on a small sample of participants with the same or similar inclusion criteria as would be the case in the main study. Data collected and analyzed during pilot studies are typically not included in the body of data generated in the main part of the study Van Teijlingen & Hundley (2001). A well-conducted study will help investigators begin to address arrangement procedure and bias issues because they allow the researcher the opportunity to:

1. Administer the questions in the same way as in the actual study.
2. Ask the subjects for feedback to identify ambiguities and difficult questions.
3. Record the time taken to complete the interview, decide whether it is reasonable and better to record participants’ time commitments in the interview.
4. Discard all unnecessary, difficult or ambiguous questions.
5. Assess whether each question gives an adequate range of responses.
6. Establish that replies can be interpreted in terms of the information that is required.
7. Ensure that all questions are answered.
8. Re word or re-scale any questions that are not answered as expected.

9. Shorten, revise and if possible (Van Teijlingen & Hundley, 2001).

Sometimes, piloting is not practical because researchers do not want to lose limited research participants and their valuable information to a pilot study database is not properly used in the study or the researcher does not want to take up participants' valuable time with under - developed questions. Another problem with conducting a pilot study is that approval must still be secured if the piloting exercise will include human subjects. This situation will raise the instrumentation questions and risk benefit issues as can occur with the review process of the full study itself.

3.6 Data Analysis

Data analysis for most of the qualitative researchers is viewed as the most challenging task. Powell and Renner *(*2003) advocate that good data analysis depends on the understanding of it. This could mean that, as a researcher you must read and re-read the text. In this study, the data was also tape-recorded. Hence, the researcher had to listen to the tape several times. Merriam (2004) outlines that, in qualitative research study, the data analysis occurs simultaneously with the data collection. In other words, this could mean that the manner you have used to collect data as a researcher should correspond or relate to the manner of how you are planning to analyse it.

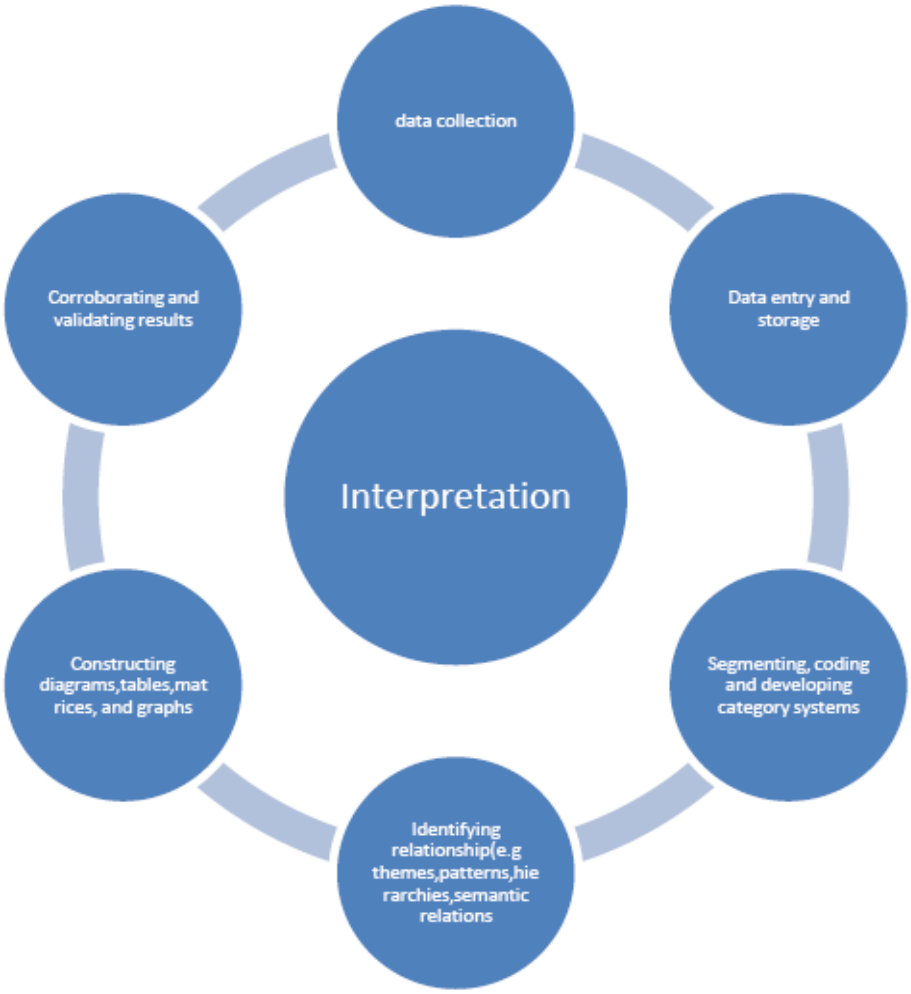
Collection of data and analysis should be done concurrently so that nothing can be missed and the memory does not fade. McMillan and Shumacher (2001**)** indicate that analysis of data involves examining it in a way that reveals the relationship, patterns, trends, etc. that can be found within it. This argument is further supported by Vithal and Jansen (2001) who argued that the aim of data analysis is to make sense of the accumulated data.

Qualitative data refers to the information that is collected as description and encodes opinions, quotes, interpretation, etc. In this study, the vast amount of data pertaining to the research problem investigated were collected through semi-structured interview. The interview data from the audio recordings was transcripted into text before the researcher conducted the analysis. All interview texts and audio tapes, which were collected from each participant of the study underwent the process, of segmenting, and coding (Johnson and Christensen, 2012). Consequently, during the coding process the researcher read the interview text, while listening to the audio recording of each interviewee from each respondent line by line and raised

questions related to the research questions. By doing so, he determined the themes, related with the research questions, from each participant interview transcript.

Johnson and Christensen (2012:517) presented the following diagram summary which displays a flow of the qualitative data collection process.

Figure 3.3: Qualitative data collection process



The initial data generated through the process of observation was recorded in a researcher's journal and named field notes. Hatch (2002) states that documentation of participant observation data consists of field notes recorded in field notebooks. This journal recorded all the conversations; the researcher interacted on them while conducting this study. In analysing data collected through observation, the researcher developed some themes relating to the problem that is investigated.

3.7 Ethical Issues

Before the researcher started to conduct the study, he applied in writing to the Rector of the Majuba TVET College to conduct the study

A positive response to conduct the study was obtained from the Rector. Participants were informed in advance about the main aim to conduct the study. The researcher also tried to establish a health relationship with all the participants by ensuring that he introduced himself and provided a brief background about himself, and why he decided to conduct such a study.

The input of the contribution of local industries representative was vital for the purpose of this study. Consequently, additional consent from them was requested. The same strategy that was used management members was also used to contact these participants.

The participants ware also informed that they were free to withdraw from this study at any time without any prejudice. All participants showed a willingness and interest to be involved in the study and signed the consent form [Appendix A].

3.8 Confidentiality

All the participants involved in the study were given an assurance of full confidentiality and anonymity. Kvale and Brinkman (2009) they point out that confidentiality in research implies that private data identified will not be reported for the purpose of anonymity and confidentiality. The researcher used pseudonyms for the participants of this study.

3.9 Researchers Position and Limitation of the study

The researcher is an employee of Majuba the TVET College. He has been with the college for more than five years. He is responsible for lecturing Financial Management Programmes at the college. The researcher is subject head for the Financial Management Programmes. At times the researcher also assists in the curriculum development matters of the college. Hence, he is also an internal examiner at the college level for Financial Management Programmes. The participants interviewed in the study were known particularly those who are working for the college on a full-time basis, with the exception of industry representatives and council members. The researcher felt that senior management of the college would be more open and relaxed in the process of this entire study. It is interesting to indicate that during the process of interviews all of the participants were relaxed, and the researcher did not get the indication that they were holding back any information. However, it should be reported that the other

participant from the college council during the interviews was not very interactive. He was a bit hesitant to express himself even though a researcher created a platform for participants to express themselves in their vernacular language should they desire to do so. This was done with an aim of getting participants more relaxed and to freely express themselves.

Best and Kahn (2003) explain that limitation refers to the condition that pose restrictions on the conclusions and findings of the research. The fact that only two industries was selected on the college students that an obvious limitation. This limitation was aggravated by the fact that the researcher did not attempt to involve other industries due to time constraints.

Further, the researcher did not examine the perception of college lecturers and students concerning the academic programmes offered by the college.

This study also had the following limitations, which needed to be viewed with serious consideration:

- This study is about the Majuba TVET College in the Northern Region of KwaZulu-Natal and the findings may not be generalisable for the rest of the other neighboring TVET Colleges due to the uniqueness of the structure of programmes that the Majuba College offers. Moreover, it should be noted that the skills and expertise of employees differ from college to college.
- Some of the industries from other fields e.g., Retail, Information Technology and Agriculture were not represented in the study.
- Participants from the senior management might have withheld some important information due to the concern that they might be revealing sensitive information;
- Respondents could have given responses that they thought the researcher wanted to hear because they are familiar with the researcher.
- Lastly, industry representatives were restricted to only some specific parts of the interview, e.g., they were not asked to express their views regarding the developmental status of lecturing staff.

3.10 Summary

This chapter outlined the qualitative research method and methodology used in this study. The steps that were followed in data collecting and analysis were explained. The researchers also considered the trustworthiness of the study. Lastly, the researcher also highlighted the limitations of the study. In the next chapter, the data, that were collected, will be presented and analysed.

CHAPTER 4

PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

4.1 Introduction

As this study has already discussed the research design and methodology in the previous chapter, this chapter reports and discusses the research findings of the study of the Majuba TVET college programmes in addressing the industrial skills shortages in Newcastle and its surroundings. It has been outlined in the previous chapter that this study used both semi-structured in-depth interviews and observations as data collection methods. The bulk of the data was collected from the sample of the major role players, which is the senior management of the college. Since this study incorporates both the college and local industries, these different entities will be reported on them separately. The chapter focuses its attention towards the academic programmes offered at the college and its procedures in addressing the local industrial skills demanded. It furthermore, discusses the level of partnership between the college and local industries. Finally, it addresses the skills currently demanded by the industries in Newcastle.

4.2 The Majuba TVET college context

It is important to start by giving a brief overview of the Majuba TVET College campuses for having an understanding and the knowledge of how campus environments affect student development. In addition, it is imperative for the stakeholders of the college to know what will promote or hinder student learning and development of their students, as they push towards addressing industrial shortages for Newcastle and neighbouring towns.

4.3 Institution setup

As outlined in the previous chapter, the Majuba TVET College is situated in Newcastle, in the northern part of Kwa-Zulu Natal. The Majuba TVET College has six campuses of which five of them are the Newcastle area, and the other campus is at Dundee. The college has a central office which is situated in town (i.e., Head Office of the Majuba TVET College) that is used

as a supporting structure for the delivery of services to sites or campuses. Services offered are based on the following portfolios: Curriculum Services; Quality Management Services; Information Systems; Financial Management Services; Asset Management and Administration Services; Human Resource Management Services; Marketing, Communications and Public Relations Services; Student Support Services; ICT Services; and Health and Safety Management Services. Campuses offer different types of courses. There are Business Campuses and Engineering Campuses. (Table 4.1).

Table 4.1: List of campuses and their location

Campuses	Specialisation	Location
Campus A	Business Studies	Madadeni Township
Campus B	Engineering Studies	Madadeni Township
Campus C	Business Studies	Newcastle Town
Campus D	Engineering Studies	Newcastle Town
Campus E	Engineering Studies	Newcastle Town
Campus F	Business Studies	Dundee (Town)

4.4 Description of campuses

Campus A

Campus A, situated at Madadeni Township is a former teacher's training college, previously known as Madadeni College of Education. The campus offers a variety of courses which includes NATED courses in;

- Business Management N4-N6, Human Resource Management N4-N6, and Financial management has been recently introduced in 2015; and
- NCV courses include: Office Administration, Tourism, Finance, Economics and Accounting and Hospitality.

The Campus seems to be better equipped. Hence, there are facilities such as computer class rooms, library, and access to internet for staff and students. However, the campus still has a shortage of learning classrooms. Hence, there are two sessions for learning each day. NCV

programmes with some of the Nated programmes are run concurrently in the morning session while the afternoon session only caters for NATED programmes. In addition, it is noticeable that although the campus has a library, most of the shelves are empty. The available books are outdated or are not in line with Department of Higher Education and Training current curriculum for TVET colleges. In any institution of learning environment, the library constitutes an important instrument of the academic growth or development of a student. Although the campus offers the Office Administration course for NCV, there are no practical rooms for such a course in order to better equip students to demonstrate the required skills demanded by industries.

From the race perspective, 100 percent of students enrolled at this campus are Africans. These students are from deep rural areas, such as Mhlabuyalingana, Jozini, Nongoma and Kwa-Hlabisa of Kwa-Zulu Natal province.

Campus B

This campus is the same as Campus A. However, it is located at Madadeni Township. Most of the buildings in this campus resemble an institution of learning that one would call a modern day institution or college, as they are spacious and fully equipped. However, the campus has no library at all. The non-availability of a library facility can be viewed as a hindrance to student development as students are being deprived of some of the facilities that are crucial for their learning. Schuetz (2005) states that the campus environment encompasses everything that happens to a student during the course of an educational programme that might not only influence the programme, staff, curriculum, teaching practices, and facilities that are considered to be part of any educational programme, but also the social and institutional climate in which the programme functions. This campus also offers NATED 191 (National Diploma) Engineering programmes, from N1 to N6. The following courses offered at this campus are in the National Diploma Programme:

- Civil Engineering; Chemical Engineering; Electrical Engineering; Mechanical Engineering; and Farming Management.

In addition, the campus has several workshops and is engaged in:

- Learnerships and Skills programmes in Agriculture, Furniture and Cabinet Making, Carpentry, Bricklaying and Plastering, Motor mechanics and Community home building courses.

Campus B also offers the following National Certificate: Vocational (NCV) Courses:

- Engineering and Related Design; Electrical Infrastructure Construction; Primary Agriculture; Civil Engineering and Building Construction; and Safety in Society.

Campus C

Campus C is situated closer to town, next to central office (Head Office) of the college. The distance between Campus C and the central office is 8 kilometres. The senior management interviewed at the central office were the Curriculum Manager, the Deputy Director of Academics, and the Rector. All of them are full time based at the Central Office in the same town as Campus C. The campus is offering these courses. For NATED Programmes, the following courses are offered: Financial Management, Business Management, Management Assistant, and Hospitality. For NCV programmes the campus offered a limited number of courses, which are: Hospitality, Tourism and Office Administration. It can be noted that the campus has a problem regarding the retention of programmes, because it previously used to offer several Information Technology programmes such as IT and Computer Science and Computers for Beginners. Such programmes were phased out two years ago. It is interesting to outline that Oblinger (2005 p.15) argues that, "The trend towards active and collaborative learning is based on learning theory and research as well as growing understanding of the current generation of learners which is enabled by IT". Furthermore there was also a Finance, Economics and Accounting Programme which was phased out three years ago.

Although the campus has a library, it is too small and is not resourced with books. In addition, the library does not have any other form of technology like sensors at the doors or within its premises to check whether the correct process of borrowing books out of the library has been implemented. The situation in this campus is made worse by the fact that there is little exposure to modern technology; lecturers have been allocated five computers to use for administration work, while the internet is not accessible most of the time. Computer class rooms are also not fully equipped. Hence, some students share a computer during computer lessons. Generally, this could be viewed as a hindering factor for effective learning. Students need to be exposed to modern technologies at all costs if they need to keep abreast with IT skills in demand. Moreover, Campus C library space is not sufficient to accommodate the majority of the students on campus. It is interesting to note that the campus does have practical rooms for Hospitality, Tourism and Office Administration.

Campus D

This campus is situated in the same radius as campus C. The distance between the two campuses is estimated to be 1.5 kilometers. The following programmes are offered on this site NATED 191 Engineering programmes from N1 to N6. Campus D also offers the National Certificate: Vocational (NCV) in Electrical Infrastructure Construction; Engineering and Related Design; and Safety in Society. The campus seems to be well resourced, with teaching and learning equipment. All of the classrooms on this campus have Over Head Projectors (OHP). Lecturing staff and students have full access on the internet. However, a shortcoming on this campus is the resource centre or library. The campus does not have a library. The non-availability of a library could mean that students have no idea of what constitute a learning environment.

Campus E

Newcastle Training Centre (NTC) is located in the suburb of Newcastle, 7 km from the Central Office. It is an accredited training provider, and a Decentralized Trade Test Centre (DTCC) in terms of the Skills Development Act, by the National Artisan Moderating Body (NAMB), a quality assurance arm of the Quality Council for Trade and Occupations (QCTO). It trains and assesses on skills programmes, learnerships, apprenticeships and part-programmes for Technicians. NTC is accredited to all the engineering SETA's (Merseta, CETA, EWSeta, MQA, Chieta) and is an ISO 9001-2000 accredited training provider. It offers training and trade testing in Electrical, Instrumentation, Boilermaking, Welding, Fitting, Turning, Fitting & Turning, Millwright, Rigging, Carpentry, Bricklaying and Plumbing. Its core business is to provide training for engineering companies throughout Southern Africa.

Campus F

The establishment of this campus comes from a partnership between the neighboring town Municipality, Demo Municipality (not real name) and the college. Demo municipality was identified as a high priority area to have a college campus, due to the very high unemployment rate in the area. The Municipality has temporarily offered the ex-Commando buildings (former Junior School) to the College to offer education and training. Research was conducted to identify relevant, responsive courses that will enable the Demo community to become

economically active, with the intent of impacting positively on poverty alleviation, employability and entrepreneurship opportunities. The Campus provides a mixture of Business and Engineering courses.

It offers the following NATED programmes: Business Management, Management Assistance, and Human Resource Management, Electrical and Mechanical Engineering. It is surprising to note that the campus is not offering NCV programmes, which consist of vocational and occupational courses that have a great focus on practical training and have a great ability to offer a range of employment opportunities to student. Campus F does not have a library.

4.5 Current Situation and Future objectives of the Economy in Newcastle

To understand the analysis and interpretation of the responses, it is important to understand the status of the Newcastle economy. According to the Newcastle Integrated Development Plan (IDP) (2012), the Newcastle Municipality has a legal mandate to promote social and economic development within its area of jurisdiction. It is also required, in terms of Section 153 of the Constitution, to structure and manage its administration and budgeting and planning processes to give priority to the basic needs of the community and to promote the social and economic development of the community. In furtherance of this mandate, the Newcastle Municipality has initiated a process towards the development of a Local Economic Development (LED) Plan as a sector plan to the IDP and a strategic guide for promoting equitable economic development.

It was indicated in Chapter Three that manufacturing is the largest contributing sector within the district economy. Manufacturing activities in Amajuba include metal production, chemicals and plastics, pharmaceuticals, clothing and textiles, food and beverages, leather and footwear (Figure 4.1). Most of the large industries are located within Newcastle, which makes a major contribution to the local economy in the Amajuba manufacturing industry, followed by Dannhauser and eMadlangeni.

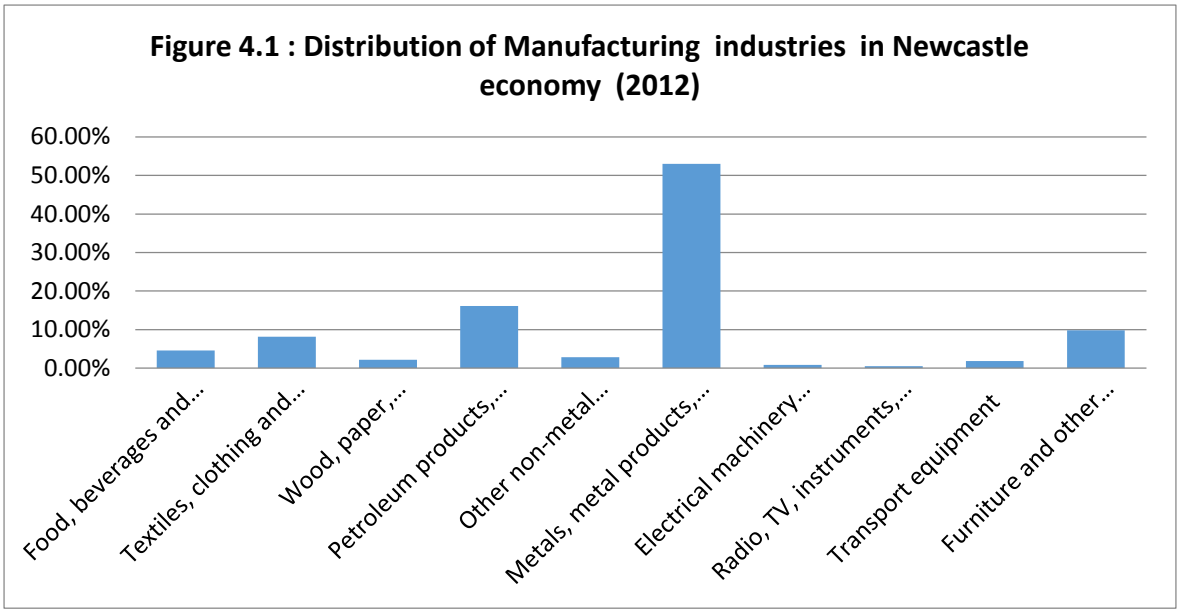


Figure 4.1, identifies the level of economic contribution from all of the local industries. The metal industry is contributing a major portion towards the local economy. Since there is a larger number of mining industries across Amajuba District Municipality. However, most of these mining industries are located in the Newcastle Municipality. Figure 4.1 shows that the metal production industry makes the largest contribution to the economy of Amajuba District, since its contribution reached almost 54%. However, the irony is that the textiles and clothing industry is the largest contributor to the employment sector, in Newcastle with over 42% of total employment in manufacturing (Newcastle IDP, 2012). However, there is a serious need to advance skills in this sector. Most of the people employed here have no formal educational support for the clothing and textile.

4.6 Data Analysis

In this study, the underlying assumption was that the TVET College does not exist in a vacuum environment but within the society. Its main purpose is to serve the interest of the society in which it is situated. Furthermore, the needs of the society are to determine the purpose of schooling.

The following research questions are related to this study:

- What kind of skills shortages exist in the industrial development of Newcastle and Amajuba District?

- What programmes are being offered by the Majuba (TVET) College to address the shortages?
- In what way do these programmes aim to address skills shortages in Newcastle and the Amajuba District?
- What are the characteristics of programmes that have contributed to reducing the skills shortage in the Industrial Development of Newcastle and the Amajuba District?
- How can these programmes be improved so that the skills shortages can be reduced in the Industrial Sectors of Newcastle and its surrounding areas?

To answer the above questions, the data were categorized and analyzed using steps suggested by Creswell (2014). These steps have been implemented as follows:

1. Organize and prepare the data analysis. This have been done by transcribing interviews, some field notes have been typed, sorting of data has been done according to the hierarchy of questions.
2. Looking at the general view of participants through the data that was collected. This has been done by singling out some ideas and observation of participants behavioral attitude towards questions posed to them.
3. Data coding occurred in order to generate meaningful segments.
4. The coding of data was applied to generate some themes and emerging themes.
5. The strategy to present the theme was worked out.
6. Lastly, the final step was data interpretation.

It is also essential to mention that during the research interview process the researcher was also accompanied by a colleague in all of these interviews conducted. For each participant in the study, there were specific interview questions as per their portfolios [Appendix B]. This was done with an aim of minimizing the concern of biasness on the findings. The notes collected by a principal researcher were compared with the field notes collected by this assistant researcher. The comparison of field notes was done with an aim of creating an opportunity for scrutiny of the data by the principal researcher and a colleague, whom could be called as an assistant researcher. This assisted in bringing in another perspective of views.

4.6.1 Profile of Majuba TVET College Participants

The study participants were senior management of the college, comprising of the Rector, Deputy Director of Academics, Curriculum Developer, and Training Manager, the two college council members, representative from the Clothing and Textile industry, and the representative of the Mining and Metal Industry. Table 4.2 presents each participant from senior management, and council members of the college according to the population group, gender, position, and years of experience in the position. The following abbreviations apply to Table 4.2:

SM – for senior management; and

CM – for council member.

Table 4.2: TVET participants

Participant	Population Group	Gender	Years of Experience
SM 1	African	Male	2 years
SM 2	African	Female	3 years
SM 3	African	Male	12 years
SM 4	African	Male	10 years
CM 1	African	Male	7 years
CM2	African	Male	8 years

4.6.2 Industries Representative Profile

The representatives of industries participating in the study were purposefully selected. The first industry representative was from clothing and textiles industry which is highly diverse and been in a field for over 25 years. The nature of products in this industry range from inexpensive mass produced basics to most highly expensive fashion and tailored garments, and specialised textiles. The other representative was from Metal and Mining industry and this industry representative is from the largest Metal Company in Newcastle. The company has been in establishment at Newcastle since 1971. One of the objective on its establishment was to be a

biggest company producing iron and steel products and to create adequate employment for local residents. Manufacturing process that occurs in the Steel and Iron products are not the same. For each point of transforming a product the system requires someone to operate or inspect the product. Thus, that someone is a qualified cutter, heater, designer, knitter, maintenance employee, etc.

4.7 Findings from the Interviews

Different interview programmes were developed for the different role key participants. The interview programmes were conducted on different days. This was done to accommodate the convenience of the participants. In addition there were two common questions asked from all the participants. This was done with an intention of establishing consistence from participants' responses, furthermore, to gain more in depth information on that particular question posed. Participants were also expected to respond to the specific questions asked, which consisted of all the focus questions, relating to their different duties they perform at the college. After listening to the audio tapes and comparing field notes, the researcher identified whether there are any similarities or differences on the data collected. Similar ideas or views had been coded. After the coding were done, all similarities matters were all grouped together so that common themes could be formulated. Some main themes emerged from the data collected and analysed from the transcripts of the semi-structured interviews and observations of the researcher.

The data is organised under three main themes corresponding to the purpose of the study. It is imperative to indicate that, the responses of all the participants were not altered and the language was not edited. The researcher used the exact words of the participants when formulating themes and subthemes. For the sake of anonymity, the identity of these participants was not identified in the study. The following three main themes emerged from the findings of the collected data:

- Quality and the effectiveness of programmes offered by the college;
- Lack of adequate teaching resources; and
- The developmental needs of lecturing staff.

In each of these main themes, they contain subthemes which are also analysed.

Table 4.3: MAIN THEMES AND SUB THEMES
ROLE OF MAJUBA TVET COLLEGE PROGRAMMES IN ADDRESSING INDUSTRIAL SKILLS SHORTAGES
Quality and the Effectiveness of Programmes • Lower social acceptability of the TVET programmes. • Lower passing grades set for TVET programmes. • Level of academic demand for NATED and NCV Programmes.
Lack of Adequate Teaching Resources • Inadequate equipment for teaching computer subjects. • Insufficient facilities to conduct practical sessions for students. • Poor accessibility of the information centres.
Developmental Issues of Lecturing Staff • Level of academic competency for TVET College lecturers. • Nature of specialised skill for teaching at a TVET College • Shortage of lecturers who are properly trained for the use of modern technology.

Source: Researcher (2015)

4.7.1 Quality and the Effectiveness of the Programmes

The participants in this study identified some of the reasons for the quality and the effectiveness of the Majuba TVET College programmes. The participants reported that these forces have hostile effects on the image of TVET institutions and their programmes in the society. The responses of the participants revolved around shaping the image of South African Colleges as a whole. The factors identified are as follows:

- Lower social acceptability of the TVET graduate;
- Lower passing grades set for TVET programmes; and
- Level of academic demand for NCV and NATED programmes.

4.7.1.1 Lower social acceptability of the TVET graduate

The respondents were all asked to express their views about how the community of Newcastle specifically perceive the programmes offered at the college. The majority of respondents were

all assenting that TVET Colleges country wide are still being viewed as a last resort for parents to send their children for tertiary education. They also indicated that parents are not passionate about sending their children to TVET Colleges to acquire some skills. The learners do not take TVET College education seriously, because of the perception of the society that only students with poor matric results enrolled at the TVET College. In addition, the community has a perception of viewing TVET Colleges as a dumping area of students who are under performers at school level. One of the respondents from the senior management said:

> *"It is commonly believed that all forms of education will help people to improve themselves and to get better jobs, but many parents believe that only a university education has a capacity to offer their children the opportunity to acquire a good job. So, majority of the parents out there still want their children to become engineers, doctors, accountants, and all the socially high-sounding professions. In other words, they do not want their children to become carpenters, mechanics, auto repairers, plumbers, house builders (mason), or to develop any other skill that can assist them to start their own businesses, or to become their own bosses".*

The above claim affirms what has been outlined by Afeti (2012) that, for many years, technical and vocational education has been measured as a career path for the less academically endowed. He further explains that this perception was powered by low qualification requirements for admission into TVET programmes. During the interviewee sessions, the researcher tried to seek more information about social acceptability of the Majuba TVET College programmes in Newcastle from the council members who were participants of the study. However, none of them was able to give a detailed answer to that question. The responses were too general. In line with the concern of social acceptability of TVET programmes, the researcher felt it necessary to ask other respondent from senior management of the college of what had been done by the college to change public or community perception about TVET college status or programmes? The intention of this question was to gather data on how the senior management is planning to advance the college image and to assess whether are there any programmes in place to deal with inadequate skills shortages. One respondent said:

"The bad public perception and image about TVETs will eventually be overcome mmm… at the present moment we are working collaboratively with local radio stations and newspapers to market and promote our programmes mmm… to add onto that, we are planning an initiative to partner with our industries locally to organise what we call career exhibition day…well that has be done by our boss DHET at Mfolozi TVET college. If you can recall the event that ran for the whole week in July….yaah we now have decided to do a similar event but collaboratively with our local industries since there are potential employers. Their role in this event will be to give career guidance by making sure that they inform our students about current skills that are in demand in the market…. And what area of specialisation should they take so that they become employable …. "

Another participant from senior management expressed her view by linking it with the financial support required from the Government of South Africa. She mentioned that:

"If the South African government can invest enough money in our …technical and vocational education and training (TVET) for us to develop the infrastructure and improve our programmes…for the development of the country. That could assist a lot in attracting youth to enrol at our TVET Colleges. Without investing in technical education, South Africa will always be in a messy situation on the issue of skills also TVET will still be considered as institutions for below average learners, we need money to improve our facilities for conducting effective teaching and learning, even to buy teaching equipment as well mmmmmm….. Just to add on that, our lecturers still need to be further developed. That also requires funding".

The responses received from two of the senior management participants indicate that as much as they are aware about social acceptance of TVET College programmes, much is still to be done, and the college cannot work in isolation in improving its image or status of their programmes. This suggests that more stakeholders need to be involved to rescue the college.

The researcher has also observed that, in most cases, some of students who enrolled at the TVET College with good matriculation symbols or marks because they were not accepted by traditional universities or universities of technology, since they did not forward their application for admission to study timeously or they did not apply at all. If they were to choose

an institution, the priority would have been given to the traditional universities or universities of technology. Clearly this creates some gaps in the education system of the country.

4.7.1.2 Lower passing grades set for TVET programmes

Technical vocational education and training (TVET) programmes are designed for people who can exhibit a certain competency level and progress in life. In order to accomplish these outcomes, quality must be the assured at all cost. However, over the years there has been a concern about TVET programmes which are achieved with a pass rate or percentage of 40 percent. On the issue of passing grades, a representative from Metal and Steel Industry said:

"The majority of your students there by the college they know nothing!!!When they come here we interviewed them and assess them with basic Mathematics required, and bit of Science and English in order to be employed or offered training on an artisan pathway…you know what my friend?? They all fail dismally!!! It becomes worse when we make use of psychometric testing that includes diagnostics skills and motor coordination/dexterity skills to assess them.
It's a disaster! I'm taking about people who have passed matric and already hold N6 certification!! Then you ask yourself what could be wrong here mmmmmm… its goes back to the passing marks set. Well, I'm well aware that a passing mark is an issue at a national level , it's something that needs to be corrected by the government because TVETs are following what has been set by the government …on the NCV programme, students are even worse. It surprises me that we are told that they also learn the practical aspects at a college level but when they are given an equipment to cut iron…yooh yooh... You will feel like screaming at them, it's not our responsibility as industries to teach them the basics. Our responsibility is to simply give them guidance and show them how things are done at an industry level….."

Although the above participant is responsible for training programmes at his work place he expressed frustration on the quality of TVET College students as they are lacking knowledge and practical exposure. He also raised some concerns about curriculum designers at the TVET College. He blamed the government for not involving them as industries enough to familiarise themselves with the vocational education curriculum and also to have some inputs on the curriculum designed. He further suggested regular stakeholders' meetings to communicate and assess the training objectives. It was very interesting to note that all members of senior management of the College mentioned the same response relating to the passing mark of TVET students. The following is one of the more detailed responses:

"Regardless of how the competence level is perceived for TVET College students, vocational education aims to develop metacognitive skills and unique identities. Students are expected to display a high level of autonomy, an understanding of the entire work done in class and practical aspect, surely this 40 percent was researched and confirmed to be a fair pass rate for our students".

The above responses concur with Tshele and Agumba (2009) who affirm that industries have raised concern about the quality and theoretical training that TVET students receive in their respective institutions. Apart from having expectations about employment and their educational career, students also have high expectations of the quality of TVET system. They are not expecting huge gaps between them and their fellow university colleagues. It is clear that industries do not have faith in the quality of the TVET graduate. Hence, Gewer and Akoobhai (2012) contend that entry into college programmes does not necessarily result in favourable employment outcomes, because companies, particularly in the artisan training field, prefer higher achievers and do not fully trust the quality of college delivery. Clearly this indicates that the minimum passing requirement set for TVET students could be associated with their intellectual capabilities.

4.7.1.3 Level of Academic Demand for NATED and NCV Programmes

The issue of the nature of programmes offered by the TVET education sector has continued to resonate in this study. Most of the comments or remarks were strongly focusing on the NCV programme. However, several participants criticised the NATED programme. Participants noted that there are many technical and vocational colleges of technologies in the province of KwaZulu-Natal who have similar concerns and worries regarding the NCV programme, but the most disturbing issue is that nothing has been done to try and resolve these concerns. Some of these concerns outlined by the majority of the senior management for the college were that the NCV programme caters for learners who have only passed grade nine at schools and the TVET programme is highly inclined for them. Most of the participants in this study have express negative views about the NCV programme. They further alluded that the negative impression of the NCV programme is that many learners drop out of the programme as they cannot handle the academic demand embedded within the programme, and this automatically leads to a high failure rate at the end of the year. The problem was also raised that curriculum advisers on NCV programmes do not to have a clear understanding of the programme

themselves. Furthermore, the research was not adequately done before the programme could be introduced or implemented. One member of senior management made the following remarks about the programmes offered at TVET College.

> *"Mmmmmm…. Generally speaking, TVET programmes have experienced many challenges in the past, some of these challenges were that universities were not recognizing TVET qualifications, most of the universities are claiming that the qualifications that are being offered at a college level are not matching to the qualifications offered by the universities. That on its own creates a stigma about TVET programmes. Another challenge that I can outline is a negative perception about TVET College programmes by the society as the weakest linking system furthermore on that the sector is further perpetuated by the community members who view FET colleges as a scapegoat for learners who dropped out of schooling system.*
>
> *This might be caused by the poor awareness or the vision and mission for TVET colleges, to come straight into your question the initiative by DHET to turn TVET colleges into institutions of choice. This reflects a great improvement from the department because at the current stage we have seen a positive shift on our programmers, we now offer skills programmes and learnership through the SETAs. To answer your question, I believe that the initiative by DHET to introduce NCV programmes was to tackle the issues of skills shortages in South Africa because the programmes also accommodate the practical aspect for learners in preparation for the workplace. The challenge with this programme is that, many learners are not coping, well, on the academic set up by the Department. This contribute to the high rate of failure and drop-outs - This is currently a major issue that seems to bother me".*

Another concern that was raised by a participant member of the management was that NCV students are emotionally undeveloped or they have not yet reached a maturity phase, and are not prepared for the freedom of the TVET College environment. They did not seem to be aware of how to take responsibility or ownership of their own learning. The participant alluded that the adolescence phase seems to be also a contributing factor for NCV learners to be able to cope with the academic demand of the programme. The participants expressed the following views about the NCV students:

"Look, most of these NCV students come straight from school. They have only passed Grade 9. Peer pressure and the fact that they are not so academically inclined is much of a challenge for them. These students cannot write or read properly since most of them are coming from poorly resourced schools. This issue is not only facing such students but even from those who have just recently matriculated - it's a similar cry for us as educators or lecturers. We even enrol students from deep rural areas of the province such as Mhlabuyalingana and Kwa Hlabisa and I must say the issue of difficulty in writing or reading is concerning. They come to college and struggle a lot".

This was a continuous journey of seeking information concerning the relevance of the Majuba TVET programmes with an aim of providing some suggestions and improvements in order to make the necessary changes for the benefit of all stakeholders concerned, in order to survive and take the institution of the Majuba TVET College to greater heights. Another participant from college senior management expressed his views concerning the college programmes as follows:

"The economic drivers of the Majuba District are coal mining, manufacturing, tourism, agriculture and textile. Majuba TVET College Programme Qualification Mix (PQM), though set by DHET and SETA (Sector Education and Training Authorities), mainly caters for these sectors. To a certain extent they cater for the district".

The issue about the views of the relevant academic programmes for the college has raised some concern as far as the senior management is concerned. Nearly all of the respondents from management are clear about their organization's programmes structure. There is still some transformation necessary for college programmes, particularly since the Majuba TVET College is being viewed as a mega institution of higher learning and training across the district. Another participant from the college management also indicated that:

"Majuba TVET College offers relevant programmes to the industries it's just that one sometimes feels that there is overlapping in most of the programmes offered. The College still needs to explore more of the programmes such as Logistics and Early Child Development (ECD) because there is a need in the market out there".

Different views were expressed by the participants in the management of the college with regards to the relevance of academic programmes offered by the college. There are also

indications of a lack of the involvement of other sectorial parties such as Business and Finance industries. Only a few learnerships are offered by Business and Finance industries to college students. However, senior management and the college need to take action with regard to involving the Business and Finance sector to be directly or indirectly involved on the structuring of programmes at the college. Dalton and Smith (2004) expressed their views that the Technical Vocational Education and Training (TVET) curriculum requires continuous renewal and constant involvement of stakeholders in the redesign process. In the recommendation of their study findings, they further suggested that a government structure needs to establish formal connections between industry and TVET institutions regarding curriculum development. This is essential to help Teacher Collaborative Curriculum Design (TCCD) teams reach and involve external stakeholders in curriculum renewals. From the senior management participants. The following views were expressed:

> *"Engineering programmes (Apprenticeships, Learnerships and skills programmes) are credible as industry indirectly influences their design. Soft skills programmes (business studies) have shortcomings as business is not directly involved in their design. Majuba TVET College offers less learnerships in business and related studies. In Hospitality and Tourism programmes, due to a high number of students absorbed by industry, indicates that the needs of the sector are met".*

> *"The PQM of Majuba TVET College limits access to the illiterate and rural communities in due to minimum requirements needed for programme. For instance, agriculture programmes offered need grade 9 minimum requirements, thus limiting access to the illiterate and the elderly. No programmes are tailored for these communities".*

All the respondents participating in this study agreed that the college is still expected to do more in playing a role in addressing skills shortages. The college needs to review their programmes since the individuals from senior management that participated in the study are mostly expressing common views about the programmes offered by the college.

Another participant from the council express the following views about college programmes.

> *"Mmmmmm... simple question yet difficult at the same time, if you will answer it haphazardly, well, I would say as the Council we have been entrusted to approve policies as stipulated by the Act. We are also involved in facilitating the development*

strategy for the College plans, we also participate in the operational plans and make inputs and recommendations to the operational plans of the College. I would say we play a minimum role in the development of academic programmes of the College but we are mostly concerned about the pass rate in our College. We would clearly say it's quite satisfactory because we see our students being absorbed in various field, such as local engineering companies and the retail sector, even the banking sector, but that does not mean, we cannot improve on our programmes. I believe that good can never be better if best is still possible".

The above views of the respondent from the council raises some questions about the level of extent in understanding their academic role at the college at large as council members. It is worth highlighting that the Further Education and Training Colleges Act No 16 of (2006) that governs the public TVET College stipulates that the composition of the academic board of a public college must include the members of the public TVET College. Further Education and Training Colleges Act stipulates the following duties of the academic board:

- It is responsible for the teaching, learning, research and academic functions of the college;
- Its establish the learning programmes offered at the college the participation of women and the disabled in its learning programmes;
- Its forms internal academic monitoring and quality promotion mechanisms;
- Its ensures that the accreditation requirements are implemented in a college; and
- It is responsible for the academic functions of the college.

The researcher conducted in-depth interviews with two representatives from both of the industries on the day after the interview was conducted with senior management of the college. Research findings also reflected that local industries are not satisfied by the kinds of programmes and the level of training students receive from the college. During this research, it was identified that there is a huge gap between the Majuba TVET College and Textile and Clothing industry. In short, there is no partnership existing. All these entities are separate entities that are not working together. Furthermore, there is no indication of any future plans to work collaboratively. The participant from the Textile and Clothing Industry made the following comments relating to the Majuba TVET College programmes:

"Well…there is nothing I can comment about on the question of programmes because we are working independently and there is nothing that directly associates us with Majuba College. The one aspect that I can highlight to you is that, clothing and textiles sector has bad image and is mostly viewed
as an industry for unskilled people or less educated therefore we are absolutely not surprised by the fact that Colleges or Universities do not offer programmes to upskill people in this field. You would agree with me that previously in schools, there was a subject called Home Economics where sewing was taught at a basic level, but that subject was phased out long time ago before even this curriculum change started, why was that so?? You know why? It was the stigma associated with the subject, once the teachers see that you are struggling with Mathematics or any other particular subject you were just forced to attend a Home Economics class. That made this subject very unattractive to students".

Figure 4.2 shows one of the students at the shoe department with several collections of material at the back.

Figure 4.2: Shoe department

Source: Picture taken by Researcher

It is generally agreed that the Majuba TVET College has not yet done enough with the promotions of skills development for the economic and employment growth and social development of the Amajuba District Municipality as a whole. There are still huge gaps in the

partnership existing between other industries and the college. Textile industries in Newcastle have been in existence for a long period of time. It cannot be disputed that this industry is also in need of skilled people produced or equipped locally by the college. Most students have not yet been convinced about the opportunities and career growth devoted within the Textile industry. It then should become imperative that the TVET takes responsibility in acknowledging this students' perspective and then promote and develop local industrial skills. This is because the effectiveness and smooth running of the TVET College is measured by the contribution it is making towards the development of local industrial skills.

The college seems to be putting more focus on the establishment of partnership with the Engineering industries only. This has been indicated by one of the participants from the college senior management who revealed that:

> *"The college has a strong relationship with engineering industries. Efforts are still in progress to leverage relationships with other sectorial companies. There is still room for improvement. The Majuba College Placement Unit has been set up to address this".*

Although the college has this healthy relationship with Engineering companies, it should be noted that the participants from the Metal and Steel industry (Engineering company), who are responsible for training in the workplace, have expressed some frustration at their lack of knowledge and experience in curriculum design and objective formulation at the DHET level. The researcher had an interest in knowing how the training is aligned with the curriculum outcomes of the Department of Higher Education and Training. The participant from Metal and Steel industry expressed his views as follows:

> *"Yes! We have a healthy relationship. We are working in collaboration, however we have recently started this partnership with an aim of improving the quality of training offered by the College and also to ensure that we quickly absorb College graduates for jobs. Well… to know what is expected from us, concerning the curriculum outcomes - I would say we are mostly relying on the experience that we have in offering the training, also on trust that we know what is essential to our field of work. Since these students acquired theory at school or college level, our duty is to ensure that they are now hands on. We can't really be sure what the government policies on curriculum wants, because we do not have any of the input at the initial stage of the curriculum design… at times the College supplies us with some outline of activities that these*

students need to achieve for them to be deemed competent but also that doesn't help much because it's usually too basic and general. It is something that can be done by anyone who is in a good state of mind".

Findings presented from the participants indicate that there is a lack of proper attention given to industrial trainers hence one of the industrial participants indicated that there is no proper formal programme that they follow so that they will be able to detect if they are satisfying the outcome of the curriculum. This might raise some questions about the competency of TVET relating to the training that they have acquired from these local industries. The researcher believed that imparting skills should not be left unregulated because there is a possibility poor work methods adopted by trainers. Furthermore, this could mean that the students are exposed at the risk of not achieving the desired outcome by the curriculum. Moreover, if there is no proper monitoring tool used by trainers and the college simply relies on what has been offered by industrial trainers, this could create some serious concerns about the quality of the TVET college students and the authenticity of the results supplied by these industries.

4.7.2 Lack of Adequate Teaching Resources

Delivery of quality TVET programmes also depends on the availability of adequate resources. Computer rooms were not sufficient in Campus A and Campus C. Such a shortage creates a major challenge for students and lecturers engaged with computer studies. Moreover, in the total of five campuses that are expected to have some resource centre or libraries, it was found that only two of the five campuses have a library. This is a real problem in the big institution of learning such as the college. However, even those two campuses that have a library, the buildings do not resemble what one would call a modern library for an institution like a college. The libraries are too small and have inadequate resources, such as books and furniture. There was a shortage of practical rooms available in all of the campuses, while, in other campuses, there were not practical rooms at all. Researchers' observations also led to a further investigation of other challenges that the college is facing that may have caused hindrances in executing perfected teaching and learning. The findings revealed that the challenges had to do with computer subject related issues, practical rooms, and information centres. The findings were then grouped into the following three themes:

- Inadequate equipment for teaching computer subjects;

- Insufficient facilities to conduct practical sessions for students; and
- Poor accessibility of the information centres.

4.7.2.1 Inadequate equipment for teaching computer subjects

It was interesting to note that the majority of the members of senior management of the college are clearly aware about the challenges that are faced by campuses. From Campus C, one member of the senior management indicated that lecturers offering computer subjects like Computer Practice Information Processing and Computerised Financial Statements experience challenges such as faulty computers and printing machines. The responses received from senior management staff led the researcher to enquire about the accessibility of computer venues. The following responses were received:

> *"mmm… from what I know, our staff members have access to the computer venues, interestingly so, I should let you know that we even have campuses such as campus A who have computer rooms that are only designated for use by academic staff only. However, in a case where the campus does not have a computer venue for staff, I should still emphasise that none of the staff members are restricted from using computer teaching venues, though lecturers may need to talk with each other especially if there is a class that is running so as to avoid disturbances. From what I have noted, older lecturers are not showing any of the interest in using computers.*
> *The heads indicated that some teachers used computers to type their work as well as to surf the net. It is hoped that through interaction with the computers, teachers would be able to gain insight into how the machines operate. This would enhance their capacity to deliver effective lessons using them…well when it comes to students, I should be honest to you that our students are not in a position to benefit through computer usage except only on the contact session because we do not have enough resources in terms of staff to monitor them while they are in that computer venue because students cannot be left unattended in such a venue. Besides our financial resources, the tools are the limitation to provide such services to our students".*

Figure 4.3 illustrates the demonstrations in the class of engineering class using similar materials those that they use in the industry

Figure 4.3: Engineering class demonstration

Source: Picture taken by Researcher

The above responses from participants reveal that there is an inadequate availability of computer technology for the purposes of teaching, learning and advancing computer skills for students. The researcher further observed that lecturers are still largely relying on the traditional talk and they cannot supply internet research activities to students because of the limited accessibility of computers to students. Thorsteinsson and Olafsson (2015) state that Information Technology skill can assist in extending human opportunities and enable people to do things they could not otherwise do. Technological action focuses on fulfilling specific goals under the influence of a variety of factors, such as individual, group or societal needs and the growth of components, devices and systems.

The most crucial purpose of vocational education is to cultivate as much learning as possible about most important things leaners need to know. Leaners do much better if they are confident that their institution supports their leaning effectively with the provision of resources such as computers with internet access. Students ooze confidence in the institution if they can clearly perceive that their learning as students is taken seriously by ensuring that necessary resources that are essential to impact their learning are in place. However, this could be mission impossible for students to perform at their level best, if they do not have limited exposure to computers or Information Technology knowledge. The poor exposure to computer facilities

can lead to the creation of a gap between curriculum policies and what a student needs to know or the practical component that must be achieved by the student.

4.7.2.2 Insufficient facilities to conduct practical sessions for students.

Sentiments raised by the senior management reveal that despite the computer facilities challenges, there is a severe concern about the availability of practical rooms. The researcher was seeking to comprehend what has been done by the college to accommodate practical subjects such as Office Administration and Tourism. It cannot be disputed that one challenge that is faced by college lecturers, who are teaching practical subjects, is that requirement to strike a balance between theory and practice because the greatest way of learning practical subject skills is through direct experience and practice. When the question probed to one member of senior management about the facilities relating to practical subjects, the response was:

"*Improvements are hampered by lack of funds because the college depends largely on the funding offered by the government, moreover, fees charged by the college are too little to cater for facility improvements. Besides all that, the main focus was in still in construction of more classrooms since there is also a shortage of these facilities*".

Figure 4.4 illustrates the engineering students at their laboratory for practical session.

Figure 4.4: Engineering Laboratory

Source: Picture taken by Researcher

Through observation, the researcher was able to confirm that four of the campuses have no practical rooms. Even the one that has a practical room, which is campus C, there are no internet facilities. The lack or the non- availability of practical rooms in any TVET College institution can be misinterpreted as an indication that the curriculum needs of practical subjects are not being adhered to by the college. This can be viewed as a signal that students are not being well prepared or trained for practical skills that are industry prerequisites. In addition, an undesirable impression for the institution can be created, which could be construed that the institution is not follow a structured learning framework. This in turn hinders students' ability to demonstrate and acquire desirable industrial skills. It is essential to recognize that according to DoL (2005) policy notional learning time does not simply mean the actual time a learner or student spent in class but it goes beyond that. It encompasses research time, reading time and also practical time. Without practical rooms students are being denied of the privilege of workout practical components in their notional learning time. However, senior management mentioned that practical rooms for engineering students, usually known as workshop rooms are in good conditions, and students are able to demonstrate practical work effectively. The researcher went out to physically verify the state of the practical rooms (Figure 4.5). Figure 4.5 shows the researcher and students during theory session prior to their practical class for engineering

Figure 4.5: Theory session in practical room

Source: Picture taken by Researcher

4.7.2.3 Poor accessibility of the information centres

The library is an important facility to any institution of higher learning as it sets the tone of learning in the institution. Having articulated the importance of a library the interview held with another senior management exhibits that there was difficulty in ensuring that the library is fully in operation in all the campuses. He states that having a library could be viewed as misusing College funds because in the past, a lot of money was spent purchasing library books which were being stolen since there was no functional tracking system. He went on by expressing these words:

"We rather invest on building more classrooms since a library can be a waste of college money".

The above response reveals the poor awareness of the importance of a library in a learning institution like a college .On observation however, the researcher noted that only two campuses had libraries that were poorly equipped. The researcher pointed out that, at one campus, the facility is divided into two parts, i.e., the one portion is a computer class while on the other part is being used as a library service area. A library in any learning institution plays an important role in enhancing the students' ability in learning. Also, a library can be viewed as a crucial instrument in supporting students and lecturers in achieving the desired outcomes of teaching and learning.

A library can also provide both academic and social supports by helping students raise their academic performance and perform well on assignments, or other assessments. Moreover, a library can help in motivating students with strategies to continue learning and improving after the school or college day. In addition, well established college libraries provide an environment where students can utilize technological equipment that they may not have access to outside of the college. Lastly, libraries are the simple provision of a physical location to focus on academic work and empowers students to excel in school with the assistance of school librarians. In support of the above view, Schuetz (2005) asserts that college environment with effective facilities contains a support and interconnect with students and provides a setting for social and physical interactions and tie the students with the symbolic and functional content of the college experience.

4.7.3 Developmental Issues of Lecturing Staff

The researcher believes that discussions on the evaluation of the Majuba TVET College programmes' effectiveness has to also consider the developmental matters of the college lecturing staff. In addition, the role of vocational lecturers in the development of skills, also in curriculum implementation and delivery of lessons and practicals in a classroom environment cannot be overemphasised. TVET lecturers' capabilities, knowledge and expertise must be carefully scrutinised, quantified and communicated for the importance of the lecturers' role to be more appropriately acknowledged and understood in the vocational sector. This is also essential due to the fact that one the purpose of this research is to identify how the existing programmes of the college can be improved to address local industrial skills shortages, and also identify the characteristics of the programmes that can contribute effectively and efficiently in minimizing the industrial skills shortages. In view of the above isolated factors, the researcher perceived it necessary to also investigate on developmental matters of the lecturing staff. Young (2006) asserts that industrial employers marginalize the status of TVET graduates due to the quality of trainers in the TVET sector.

At this point in time the researcher believes that it is worth emphasizing one of the strength of a qualitative research study. Cohen et al. (2007) assert that one strength of this type of research design is its ability to provide complex textual descriptions of how participants experience a given research matter. The qualitative research will deliver information about the "human" side of an issue. The researcher was under the impression that staff development matters are mostly the onus of senior management. In the different interviews with the senior management of the college, it was clear that they all seem to dwell on the issue of the staff development and its importance for the entire college community. The key issues that emerged from staff development were as follows:

- Level of academic competency for TVET College lecturers.
- Nature of specialised skill for teaching at a TVET College.
- Shortage of lecturers who are properly trained for the use of modern technology.

4.7.3.1 Level of academic competency for TVET College lecturers

One of the challenges expressed by the participants alluded was the academic level of competency for college lecturers. There was a serious concern that many lecturers at the

Majuba TVET College were not effective teachers because they are not trained for teaching. However, it was also mentioned that the college senior academic managers recognised that pitfall. Hence, in the past five years, initiatives commenced to develop lecturers with pedagogical content and knowledge at the University of KwaZulu-Natal. The participant explained that the UKZN offered a National Professional Diploma for Vocational lecturers (NPDE). This was offered in order to advance and develop lecturers' pedagogical skills. However, one participant from senior management also mentioned that:

> *"as the college succeeded in this area of aspect, the challenge is that practical skills have not yet been catered for developmental issues of the staff, hence you should know it very well that TVET lecturers are not teachers but instead are lecturers therefore they should be able to demonstrate practical component in conjunction with their pedagogical knowledge. Clearly this should tell you that our lecturers are still in need of industry exposure".*

Another senior management staff that the researcher interviewed confessed that*:*

> *"Most of the college lecturers hold the N6 Diploma (college Diploma) which makes it challenging for the college to develop recognisable reputation. You can also agree with me that skills, qualifications from university degrees, educational knowledge and also the experience plays a crucial role in forming the professional identity of the lecturer".*

Another participant agreed that the lack of adequate professional training for the college lecturers is an issue of concern. In discerning that the issue of professional development is being underlined as a means of empowering college lecturers by providing them with the ability to update and upgrade their knowledge and qualifications, the researcher interviewed another participant of the study, to gain an in-depth understanding about the sobriety of the issue at hand. The participant responded as follows:

> *"College lecturers are not…well-trained. Generally, their subject matter is not on par since most of them only studied up to the college level. For an example, you will find that an Accounting lecturer has only done Accounting at college level, which is at a Diploma level. Clearly that person cannot be assured that they have grasped and intensified all the complexity issues of the subject and cannot be compared to someone who has done a similar subject at a Degree level or even had the subject as their major. Another issue of concern is the curriculum itself – it is not well designed to meet the*

demand of the industries, more especially if you will consider that South Africa is a developing country. Therefore I can say, a majority of our lecturers are not qualified with professional qualification hence there is still a gap when it comes to the delivery part".

The researcher noted that most of the senior management staff participants shared the same sentiments with regards to the status of the professional development of lecturers. These sentiments should be viewed as an indication of one of the hindrances to the progress of skills development at the TVET sector concerning the challenges faced by lecturers at public TVET colleges. The above findings are an indication that the Majuba TVET College lecturers are in need of professional development training and it's also interesting to note that the college has come up with some intervention measures that can assist lecturers in classroom teaching.

4.7.3.2 Nature of specialised skills for teaching at a TVET College

There were mixed responses amongst the senior management of the college about their views on the nature of specialised skills required to teach at the TVET College. The reason might be that some of the seniors were not displaying a clear understanding of the vocational subject in the colleges. In addition, some other members of senior management showed limited knowledge about the purpose of vocational education. Another participant reported that:

"New curriculum and training concepts are in line with the changes in the production processes. The curriculum is established in a sense that it requires lecturers to have a practical knowledge of what is happening in the industries. Therefore, I believe that in order to incorporate the new demands of the curriculum with pedagogical knowledge effectively, class lecturers need to have a workplace exposure for them to be also relevant to industries".

The above response clearly indicates that the successful implementation of the TVET academic programmes can effectively respond to the industrial skills shortages and also depends on the practical industrial exposure of lecturers, which can be achieved by adopting some partnership relationship with industries. One senior member of management responded as follows:

"Mmmmmm… well it's of importance that we provide our lecturers with training so that there can be an improvement in terms of their performance in class and as the senior management, we are pretty much aware that we should give support structures to our lectures concerning training that they might require. In the previous years there was an initiative implemented by the college to identifying the competencies needed to successfully perform teaching tasks".

It is important to recognise that, in both of these responses from participants the training of lecturers is perceived as a way of facilitating effectiveness to the college academic programmes. The professional development, pedagogical and industrial training competence of the college lectures is seen as a crucial instrument to the successful implementation of any TVET College programmes. Clearly the above responses indicate that the senior management of the college should continue to embark to the training of their lecturers and ensure that they maximize healthy relationships with local industries and keep abreast with the industrial needs. This confirms what was outlined on the literature chapter by Gewer and Akoobhai (2012) when they affirmed that little has been done to prepare the college lecturers to be utilised for greater productivity and efficiency in the TVET College system.

The college should prioritize the developmental aspects of the staff. Hence, it is perceived that the college has specialized in recruiting most of the academic staff that was not adequate equipped to teach at the TVET College. Clearly, the concept of staff development is a priority of the college. The researcher, from his judgement of the participants' responses, believes that students are not acquiring an appropriate balance between practical and theory. The issue of staff development for the college lecturers should be a continuous process for the college to help college lecturers to be more motivated when they are executing their duties.

4.7.3.3 Shortage of lecturers who are properly trained for the use of modern technology

It was interesting to know that the senior management participants were very much aware of the importance of the Information Technology subjects or courses in the Vocational education. Hence, they acknowledged the need to advance this skill as an issue of priority for the college. In the interview with all of the participants of the college it was discussed that the college is currently maximizing its capabilities to develop and to advance Information Technology. One of the participants interviewed mentioned that:

"*Investing in modern technology is one of the central points in the improvement of quality and the status of our programmes at the college. Industries out there need programmers, software engineers etc. and we are pretty much aware that as the college, we are still far behind in advancing and developing such skills and techniques"*

From the above point of view of the participant, it would be interesting to find out what are the initial plans of the college. It appears that many campuses have a scarcity on computers. It is, therefore, puzzling how this problem is going to be solved.

It appeared that all the senior managers and the college council participant members were more vocal about the scarcity or shortage of lecturers that are specific for the teaching of Information Technology subjects or programmes. The concerns of the participants was mostly on human resources to be used for the college to acquire the desired outcomes. Most of the participants described the situation as grim for the college since it was assumed that it will require the college to utilise more funds to reinforce some technological specialised skills for the lecturers. The researcher observed that campus C was solely designed for Information Technology programmes. However, over the past years, all the programmes for IT were phased out. The phasing out of IT programmes is currently having a negative impact on the learning process, particularly to students. In any learning institution, nowadays, all students are expected to graduate with a basic understanding of IT. A knowledge of IT is one of the crucial measurements to assess the quality of any programme offered at any institution. One of the respondents stated:

"Ooh well… the college do have broader understanding of the opportunities for students who have done IT , but so much is demanded to work on that … not that we are running away from the challenge but of course we are trying our utmost best to reach greater heights as the college but the reality is that computer programmes will demand a lot of financial investment hence we have to train our lecturers with some private educational providers for certain IT skills, also more investment is still needed on our equipment. For an example, safety of overhead projectors in computer labs - we need to ensure that there is tight security on those venues remembering that it is not just a normal classroom but a computer venue, air conditioners should be installed as well. Yet another challenge regarding training of lecturers is that once they have been

upskilled, they simply leave us and we cannot stop them from doing so. Everyone is desiring greener pastures".

Another participant from the council member alluded that:

"The system of any TVET college in South Africa cannot effectively work. It is quite impossible to develop of the country's economy without investing heavily in human-capital and more importantly…technological or information technology education, since we are living in the times where technology is rapidly changing in a tremendous way of course. From experience, no society can develop…without long-term investment in technological studies or education, everything its transformed to be in technological , even the education mode hence you will notice that we have online learning now, we send assignment via online programmes. The country demands people who will be knowledgeable with such technological innovation. I have been traveling to overseas and I have witnessed this… we can afford to embrace some limitations if we are serious about our programmes status development at the college…"

An interesting view, which is closely related to the above statement, was raised by the council member as follows:

"TVET colleges particularly in the Norther Natal Region today are currently lacking modern lecturers who are strongly equipped with the knowledge of IT, lecturers who can successfully impart their knowledge to students. I am referring to the kind of IT knowledge that can assist in order to produce high-quality technicians as well as to empowering our students with employability skills to secure paid employment or to become self-reliant. In developed countries such as Japan and Britain, you find that their economic strength mostly lies on the investment on Science and Technological subjects, therefore IT programmes for the college are seriously essential for our development status".

Another council member made the following comments relating to the staff development issue:

"If the college could get more funding from the government, that will assist greatly because these essential trainings we are talking about could be easily be provided to our lecturers and also the equipment that we need to be in place could be acquired easily that could mean that our students will benefit more and also become more marketable out there with

prospective employers hence they would have acquired adequate knowledge and skills from us as the college".

The above responses indicate that staff is the main and most crucial resource in any organization. The vision of any organization also lies in the nature of the staff the organization has. Such responses call for a college to further engage on the developmental matters of the staff.

It should be noted that one of the senior managers interviewed, who is responsible for staff development of academic lecturers, reported that he is mostly concerned with analysing the academic needs of lecturers to ensure that they are able to deliver the effective functioning of teaching and learning. He disclosed that it is mandatory of the college to ensure that, within a year, on the commencement of the newly appointed lecturers, they are trained on the following academic development programmes: Facilitator; Moderator; and Assessor. However, it worth noting that the staff member revealed that most of the college lectures have shown some negative perceptions of the above mentioned programmes since they are of the view that assessor and moderator training are not perfectly linked to the learning programme that are currently running at the college but they only benefit them to acquire knowledge of the SAQA Unit Standard.

4.8 Summary

This chapter has outlined the external and internal conditions surrounding the Majuba TVET Colleges that could affect the implementation of academic programmes that can effectively respond to local industrial needs. The researcher provided an overview of the college campuses the people involved in the senior management of the college and what programmes are currently offered by the college. In this chapter, data were presented and analyzed. Presentation of the findings of the data consisted of a detailed discussion of the following main themes: Quality and the effectiveness of academic programmes; lack of adequate resources for teaching and professional developmental concerns of the lecturing staff.

Quality and The effectiveness of the programmes

One of the major findings revealed by this study was the quality of programmes that are offered at TVET Colleges. Linked to this finding was the views about the social acceptability of TVET

programmes. Most of the participants of the study express some concerns about how the public at large view the TVET programmes. Another issue that emanated from the quality and the effectiveness of programmes was the minimum grade sets for TVET programmes. This was a serious concern for representatives of industries who claimed that the competency level of TVET students is not satisfactory. Lastly, linking from this main theme, was the academic demand of TVET programmes. Mixed responses were presented on the NCV programmes. In addition, participants expressed their understanding and views on the relevance of the programmes that the Majuba TVET College is offering.

Lack of adequate teaching resources

Concerns about teaching facilities were also raised. Specific identified resources were shortages of equipment for teaching computer subjects. Participants also reported that most campuses have shortages of equipment such as Over Head Projectors and computers. The other sub-them that originated was the non-availability of practical rooms in most of the campuses. This was observed as the most disturbing and disadvantaging factor for students. Lastly, the observation from the researcher also revealed the non-existence of information centres for students in most of the campuses of the college. Few campuses lacked resources such as books and equipment.

Staff Development

Participants from the college senior management raised some concerns regarding the developmental matters of the staff. From the findings of the study and discussions, it became clear that the college is still expected to do more in developing their staff in terms of professional development. It was also revealed that there is a necessity for the college senior management to make an analysis of training skills required by lecturers. Finally, the college presented some challenges associated with lecturing staff for modern technology or Information Technology programmes.

It was found that the college has a strong partnership with engineering industries. The findings also revealed that the college's major focus is on engineering programmes. There has been a chronic mismatch between the programmes that are currently offered by the college and the actual demand of local industries. The textile industries, for example, is not benefiting from the college and also the college has not invested on the popular programmes such as Information Technology. However, the participants reported that the college is currently trying

to expand its relationship with other local industries. In addition, it was also revealed that the services offered to students are not up to the mandatory or expected standard. This could mean that the quality of other programmes offered to students is compromised. This could be confirmed with the lack of practical rooms to programmes that mostly demand practical application.

Chapter five, the next chapter, will provide the conclusions and recommendations based on the findings of this study, outline some possible areas for further research and identify limitations of the study.

CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this last chapter, the researcher provide a general overview of this study with the aim of assessing whether the main objective of the study, as articulated in chapter one, has been realised. Secondly, the chapter will present conclusions that are drawn from the findings of the study. Thirdly, the researcher will offer recommendations for the Majuba TVET College to adopt in order to ensure the usefulness of academic programmes to be offered in local industries of Newcastle and its surroundings for overcoming skills shortages. Finally, the researcher will suggest possible areas for further research and identify the limitations of the study.

5.2 General Overview of the Study

The aim of this study was to examine the role of the Majuba TVET College programmes in addressing local industrial skills shortages in Newcastle and its surrounding areas. This was done by interviewing the senior management staff of the college, and also by seeking industries' perceptions on the technical, vocational education and training (TVET) programmes at the Majuba TVET College. The aim was to develop an understanding of the extent of Majuba TVET College programmes' effectiveness through the perspective of the local industries, who are perceived as mostly dominating in Newcastle.

5.3 Summary of Chapters

In chapter one, the background and the purpose of the study was laid. This was supported by the statement of the problem, aims of the study, research questions, research methodology and demarcation of the study. In addition, definitions of frequently used terminology are also supplied. This chapter also presents detailed and comprehensive information related to the purpose of TVET Colleges in ensuring development of industrial skills. Moreover, research questions were presented with the aim of determining the role of the Majuba TVET College programmes. Lastly, this chapter also highlighted the main aim of vocational programmes in enhancing skills development at Technical Vocational Education and Training Colleges.

Chapter two presents and analyses information available from relevant literature studies on curriculum, impact of skills shortages, causes of skills shortages, perspective of industries and

communities on TVET College programmes, nature of skills shortages and stakeholders' intervention on skills shortages. The literature studies also include DoE, DoL and DHET, National Skills Development Strategy 2012/13-2014/15, and the Skills Development Act No 97 of 1998.

Chapter three describes the methodological approach used in the study where semi-structured interviews and participant observations' were applied to achieve the desired information about the role of the Majuba TVET College programmes in addressing industrial skills shortages in Newcastle and its surroundings. The chapter starts by restating the research aims, through to the research design. Emphasis is placed on the instruments that were used to collect data. Furthermore, proper justifications for selecting participants are supplied

Chapter four presents the responses from the participants. The results are organized under three main themes that are linked to the subthemes which are corresponding to the objectives of the study. The first theme is the quality and effectiveness of programmes where the following subthemes emanated (Low social acceptability of TVET programmes, Low passing grades set for TVET programmes, and Level of academic demand for NATED and NCV programmes). The second related to the lack of adequate teaching resources. From this main theme, the following subthemes originated. Inadequate equipment for teaching computer subjects, insufficient facilities to conduct practical sessions for students, and poor accessibility of the information centres. The third theme focussed on the developmental matters of lecturing staff, where the following subthemes were developed Level of academic competency for TVET College lecturers, Nature of specialised skill for teaching at a TVET College, and Shortage of lecturers who are properly trained for the use of modern technology.

Finally, chapter five focuses on the summary of findings, conclusions of study and recommendations.

5.4 Summary of Research Findings

Findings with regard to the first research question and the aim of this study:

5.4.1 *What kind of skills shortages exist in the industrial development of Newcastle and Amajuba District?*

This question lead to the evaluation of the current status of the Newcastle economy. This evaluation was done with an intention of presenting the dominant industries in the economy of Newcastle and its surroundings (Amajuba District Municipality). Having this in mind, it's of paramount importance to indicate that, the researcher desired to establish whether the college has catered for the needs of most industries which are major contributors to the economic growth of Newcastle and its surroundings areas. The data collected in the study revealed that most of the industries in Newcastle, are not well catered for by the college. The college seems to be mostly focusing on the Engineering field. However, it should be noted that even though such focus is on engineering studies, the Metal and Steel representative, who took part in this study, expressed some concerns about the inflexibility of the Vocational curriculum offered by TVET institutions. Alternatively, from the Textile and Clothing perspective, it was found that the college is not offering any programmes that can benefit this industry. It's worth outlining that according to Newcastle IDP (2012-2017), the textile and clothing industry is currently contributing around 10% to total Gross Added Value (GVA,) which indicates that this industry has the potential to create large amounts of employment for Newcastle.

It should be noted that the TVET sector in South Africa is expected to play an important role in the development of the economy of the country. This claim is supported by the National Development Plan (2012), New Growth Path (2011), Industrial Policy Action Plan 2 (2011) and Human Resource Development Strategy for South Africa 2010-2030 (2009). Hence they all articulate that there is a great need for the TVET College sector to contribute effectively to the national social and economic goals of inclusive growth. Similar views are raised by Rasool and Mahembe (2014) as they advocate TVET Colleges are a crucial instruments in ensuring that they eradicate poverty, develop small business and encourage entrepreneurship.

Caiazza (2015) emphasize that the labour market is in need of knowledgeable people with Information Technology since it needs to keep abreast with rapid technological changes, improve quality of work, maintain relevance, be flexible and offer life-long learning

opportunities in the workplace. This argument is an indication that textile and clothing industries required specialist on Computer- Aided Designers (CAD) and Computer- Aided Manufactures (CAM), in ensuring that all the production processes that need to be computerised are effectively processed so that the industry became more recognisable in the market. Apart from the textile and clothing industry, findings revealed that the Majuba TVET College programmes delivery systems is not well placed to train the infuse the skills of entrepreneurship to its students. Newcastle needs to create wealth and combat poverty. The data collected from participants revealed that the college, rarely, if not, visit the local commercial enterprises to create partnerships that can assist college students to be equipped with business acumen. As per the researcher's observation, the college has not done well in ensuring that commercial students' needs are met, since the college rarely performs field trips for commercial students. Field trips are useful in enhancing a student's understanding of the context since they can be viewed as a complementing part of practicals for commerce students. Moreover, field trips can ignite a desire for commercial students to start their own businesses.

Conclusion

It can be concluded that there are not many partnerships existing between the college and other local industries, with the exception of engineering industries. This absence of partnership has led to the stimulation of skills shortages in Newcastle and its surrounding areas. These findings indicate that there is a significant demand for people with entrepreneurship skills, which are not encouraged and promoted by the college.

Recommendations

It is highly recommended that the college senior management try and initiate a strong partnership with the majority, if not all, of industries in Newcastle. This partnership can assist in overcoming the barriers that contribute to industrial skills shortages in local industries. Moreover, this partnership could assist in engaging local industries to actively partake in the learning process that occurs in a college. The existence of this partnership will influence industries to perform sectoral analysis. This sectoral analysis will be the identification of key skills shortages in industries and also it should indicate the importance of each skill in each field. It should be noted that, even though the college is reflecting a good partnership with the Engineering industry, this does not affirm that Engineering skills are well catered for. The industry still suffers with the shortage of artisans, metal fabricators, welders and plumbers Nzimande (2014).

It is interesting to note that the college is also providing agricultural programmes. The agricultural sector is vital to the economic development of Newcastle and its surrounding areas. This industry should be promoted intensively since it has shown a great potential in eradicating poverty in Newcastle. According to the Newcastle IDP (2012-2017), the agricultural industry contributes about 0.7% to the local economy. The Newcastle IDP (2012-2017) further stipulates that even though it may seem make low contribution, the agricultural sector still remains an important sector for the following reasons:

- The sector has the potential to create jobs; and
- There are a number of catalytic agricultural projects that have been identified for the Newcastle municipality.

The following are examples of careers which are possible under agriculture:

- Crop specialist;
- Soil scientist;
- Fertilizer sales representative;
- Plant breeder;
- Plant geneticist;
- Soil conservationist;
- Soil surveyor;
- Food microbiologist;
- Food manufacturing; and
- Food researcher.

It is strongly recommended that, the college may start to mobilise its partnership with the major local industries such as textile and agriculture. This will eventually influence other industries to take an active interest in joining this partnership. Refocusing on the industrial skills shortages can lead to the development of good reputation of TVET colleges. A TVET College that provides technical and vocational education and training that is perfectly aligned with its local industry needs maximises the faith of the society. Afeti (2012) concurs as he states that enhancing the status and attractiveness of TVET will include changing perceptions and attitudes of the public about technical and vocational education. He further alludes that for this to occur, the use of relevant stakeholders in the TVET sector and the involvement of successful entrepreneurs in motivation operations, especially at an early learning phase such as a schools,

will be necessary. Lastly he points out that the embarrassing shortage of stakeholders is one of the banes of TVET Colleges.

Findings with regard to the second research question and the aim of the study:

5.4.2 *What programmes are being offered by Majuba TVET to address the shortages?*

The Majuba TVET College is offering the following classification of learning programmes as they are guided by the Department of Higher Education and Training, The first classification is NATED courses, which are assessed by the Department of Higher Education and Training. The second classification is the NCV courses which have been introduced by the Department of Higher Education and Training since 2007 and are basically an alternative to the other routines of academic programmes offered at Secondary Schools. The NCV programmes only cover the Secondary school (Levels 2 – 4), while the NATED covers post-matric education, and their academic programme usually starts from N4 – N6 certificate. After the successful completion of the N6 certificate, a student, is expected to undergo an in-service training with relevant industries for a duration of 18 months.

In view of the programmes that are offered at the college, participants expressed various concerns associated with the students that have registered under NCV programmes. One of the key findings relating to the programmes offered by the college was the strong concern that NCV is difficult, since it was develop for above average learners. The challenge is that most of the learners who have enrolled under this programme are not yet fully developed in their maturity status. Hence it is more difficult for them to cope with the academic demands of the programme. This causes them to drop out or results in a higher failure rate for the college. While the college has a collaboration with most of the Engineering industries, findings relating to Engineering students revealed that students that are sent on industrial training as part of the Engineering programme requirement to acquire on-the-job training their competency level are not properly monitored and assessed by those assigned to monitor the in-service training programmes. This is confirmed by the researcher's observations since there is no proper monitoring of a designed tool or instrument (log book) used to assess or verify a student's competency before a student can be allowed to apply for a full qualification (Diploma) after the completion of training.

Conclusion

Based on the above findings, it can be concluded that there might be a lack of proper teaching strategies to be implemented by college lecturers during the classroom teaching session, especially for NCV students. Another issue of consideration could be the poor or lack of career guidance of these NCV students. Students are enrolled at the college without a proper knowledge of the curriculum. Students often seemed to select courses without knowing of the complexities associated with vocation education. With regard to the on job training, students may end up not acquiring relevant skills for their field as required by industries, resulting in poor performance. Clearly this is one of the major concerns raised by Ngure (2013) as he contends that TVET College graduates demonstrate inadequate practical knowledge and limited hands-on experience with certain models of vehicle, particularly the new models. This is caused by a lack of close monitoring of the students competency by the college sector.

Recommendations

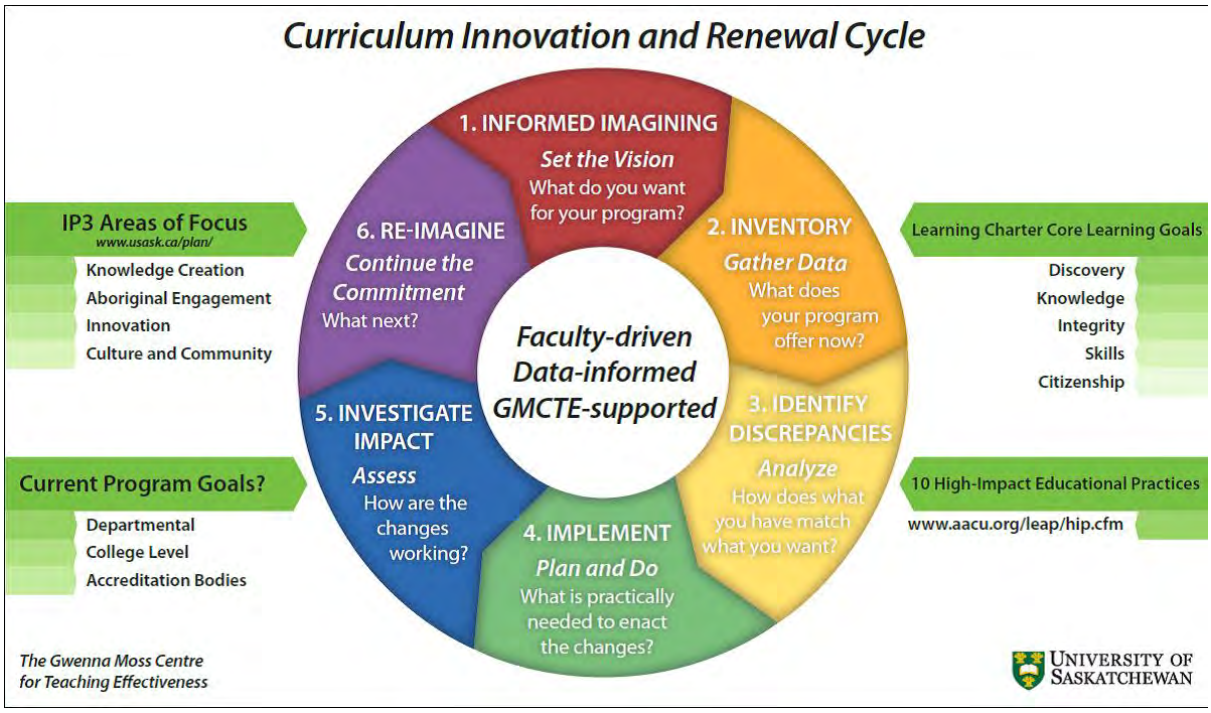
The senior management of Majuba TVET, with the authority from Department of Higher Education and Training College, must maximize their efforts in capitalizing on the implementation of learning programmes which are currently on demand in the labour market. This means that Majuba TVET College must embark on a campaign of gaining what is currently demanded by the industries to ensure proper alignment of supply in relevant skills and demand as well. Based on the findings revealed by the data, it's imperative for the college to start embracing participative forms of management and leadership style with various stakeholders of the college, for example senior management could, on a frequent basis, seek advice from lecturing staff about programmes that can be implemented at the college. Moreover, it's also crucial for senior management to seek views from lecturing staff about the current status of programmes. This will create collaborative management style that could assist in ensuring that the college programmes respond effectively to industrial needs. As much as the college is trying its best to align its programmes with industrial skills, the researcher believes that more is still needed to be done by the college to maximize its quality of programmes. According to Afeti (2012), TVET programmes are mostly not structured or projected as per labour market demands. The structure of these programmes appears not to be helping the unemployed to find jobs, without any critical effort to match training to available jobs. He further articulate that this situation has resulted in many vocational college graduates not finding jobs or finding themselves in jobs for which they have had no previous training. According to the researcher's observation, although the college is offering Financial Management and Business Studies, the compilation of subjects is not satisfactory. Hence these

programmes are not offering subjects like Business Law or Economics which are crucial for a leaner or a commercial student.

It's recommended for the college to regularly examine what programmes must be offered in order to remain marketable and effective to the local labour market or even national labour market. In so doing, it will be able to identify and describe labour market needs. The following aspect needs to be adhered and applied by the college when determining structure of learning programmes that they can offer:

- **What kind of industries are local based at Newcastle and surroundings?**
  That will assist a lot in identifying the relevant targeted market to be served.
- **What are the dominant needs of these industries relating to skills?**
  This question can assist the college to push its boundaries by assessing and re-examining its curriculum package.
- **What could be the involvement and the contribution of local industries in the learning programmes to be implemented if any?**
  By responding to this question, it will give a directions or indication on how industries could be engaged in a learning process, for example can they be influenced to offer some internship or learnership to college students?
  What nature or type of students does the college have?
  Before introducing any new learning programmes, it's imperative to first assess the nature of college learners the college has, for example, will they be able to cope with the academic demand of the programme, will the language of instruction not be a limitation for them, what are pre requisite skills demanded for such programme, assess whether learners have such skills.
- **Who are the major stakeholders in a college?**
  This can assist in determining each role player's responsibility in the implemented programme.

Figure 5.1 Curriculum Innovation Structure



Source: (Usask.ca, 2015)

The above model can contribute extensively in understanding the analysis for the proposed learning programmes to be offered.

Findings with regard to the third research question and the aim of the study:

5.4.3 *In what way does these programmes aim to address skills shortages in Newcastle and Amajuba District?*

The findings of this study revealed that delivery of the current Majuba TVET College programmes is also closely linked to the availability of infrastructure, teaching resources and the developmental status of lecturers. For academic programmes to be beneficial for both students and industries, it is important to consider the aspect of infrastructure. The findings revealed that, out of the total of six campuses, only two of them had libraries. Shortages of classrooms is another shortcoming associated with the infrastructure. The findings of this study also revealed that not much access into information technology is given to students to interact with computers, using the Internet and for their academic development and for academic research purposes. This is obviously having a negative impact on the level of delivery for academic programmes since the above aspects have a great influence in ensuring the quality of

programmes delivered at the college. Based on the responses from the participants it was revealed that the value and of programmes is closely connected to the professional developmental level of lecturers.

Conclusions

Quality and the effectiveness of the programmes in some areas of the learning process is being compromised since there is inadequate availability of the infrastructure. It can be concluded that the shortages of practical rooms is identified as one of the findings in this study and could result in an inability of the students to carry out practical class work to the optimal level of the curriculum demand. Furthermore, this could raise a serious concern to the potential employer about the quality level of TVET College graduates. Generally, students are being deprived of the facilities which are crucial for them to make their learning fascinating and easier for them. Lastly, on this note, it's worth outlining that TVET College lecturers represent a crucial instrument of the skills development in the context of vocational education. In the study conducted by Ngure (2013), one of the findings revealed that majority of employers blamed the quality of TVET graduates on the kind of lecturers, who did not have adequate industrial knowledge. Participants of this study outline that the college is currently facing the challenge of lecturers with weak pedagogical methods of teaching, in conjunction with the lack of industrial knowledge. The final conclusion that could be drawn from the findings is that college programmes do not adequately address industries' skills.

Recommendations

To ensure proper effectiveness of academic programmes at the TVET sector, it is recommended that TVET Colleges offer extensive practical training. However, this will require government to allocate more funding to be utilised for the purposes of infra-structure, equipment and staff development. Afeti (2012) states that vocational education is expensive and quality comes at a price. There is no substitute for adequate funding when it comes to delivering quality vocational education and training. He further recommends that a training fund should be established to support TVET College programmes. In addition, salaries of vocational lecturers should be increased to retain and attract them into the field.

It cannot be disputed that TVET College lecturers need to be knowledgeable on how to integrate practical skills and theoretical knowledge into their teaching programmes. Hence Moll et.al (2005) contend that lecturers need to be able to answer questions such as: - What

knowledge is crucial for students to understand before they can be able to fully understand what they are doing in the practical component? What knowledge do students actually need so that they can clearly comprehend the consequences of their actions and make correct decisions? What knowledge is essential for students to change their attitudes? The senior management of the college could capitalize on the use of Education Training and Development Practices Skills Education Training Authorities (ETDPSETA) intervention to ensure that industries provide mentorship programmes, industry training for lecturers to align teaching and learning at FET colleges with the practical needs of the industry.

Findings with regard to the fourth research question and the aim of the study:

5.4.4 *What are the characteristics of programmes that can contribute to reducing the skill shortage in Industrial Development of Newcastle and surroundings?*

One of the motives of this study was to uncover the following concerns of the researcher: to what extent does the senior management of Majuba TVET College is driven by the consideration of ensuring the relevance of industrial programmes in a college, the need for implementing vocational training programmes with technical skills, and whether the TVET college management is genuinely driven by using their programmes to ensure that they provide the answer in reducing poverty and increase employment opportunities for their graduates. It appears that a major focus of the programmes are on the Engineering field, as outlined earlier on this study. It is also worthwhile to consider the consequences of giving more attention to one or few programmes than others. It is essential to point out that researcher observed that Business Studies, Financial Management, and Information Technology programmes are compromised by the college. Earlier in this study it was outlined that some of the Financial Management subjects and Information Technology programmes were phased out by the college.

Conclusion

If the senior management of Majuba TVET College solely places value on Engineering programmes (mechanical engineering, electrician and civil and chemical engineering), it could mean that the quality of other programmes is highly compromised. Consequently, there will be graduates who are not properly trained to work in industry. From the preceding discussion, it is clearly evident that the college needs to reduce the decline of the shortages of skills in local industries. If senior management of the college and other relevant stakeholders, such as SETAs, do

not step in and find some avenues to implement programmes, the issue of industrial skills shortage will continue to remain unresolved forever.

Recommendations

It is strongly recommended that the quality of programmes offered by the college be aligned to the industrial skills demand. This will assist in ensuring that college programmes are not redundant. Industries will benefit as college students will be able to acquire some skills that will assist them to become self-employed. This will encourage many skilled workers to remain in the country as they will be pleased with the standard of education that will be offered to their children. In order for a college to attract most of the industries in Newcastle and surrounding areas and developing a strong partnership with the majority of local industries with the intention to solve the unemployment problem and industrial skills shortages, it was important for the Majuba TVET College to ensure that the college develop their academic programmes to be in line with labour market demands. It is also highly recommended that the college should establish a marketing research division within a college level.

This division can assist in conducting some investigation of programmes, with the aim of establishing what is currently demanded by industries. The marketing research division with a college can work collaboratively with senior management of the college to do Training and Development needs analysis. Training and Development needs analysis could be viewed as a first step in ensuring the delivery of effective programmes in a learning organisation. According to Botha and Oosthuizen (2011) the needs analysis can be understood as a systematic collection and evaluation of information to find gaps in the existing competency levels, skills knowledge and attitude of people within an organisation. Noel (2008), as cited in Botha and Oosthuizen articulates that it is essential to involve the main organisational stakeholders when conducting training. He further states that is necessary to ensure the training contributes to the enhancement of individual performance. He also adds by stating that this can be achieved by involving and negotiating with the relevant stakeholders in respect of what the results or outcomes of any training programme should be.

Findings with regard to the last research question and the aim of the study:

5.4.5 Assess how these programmes can be improved so that the skills shortages can be reduced in the Industrial Sectors of Newcastle and its surrounding arears?

In general, it can be outlined that the findings of the study also revealed that the quality of TVET programmes is low, which could be caused with various factors such as inadequate attention given to Mathematics, inadequate competency level of lecturers, obsolete training equipment, and lack of instructional or teaching resources. It is essential to note that high quality skills training will require appropriate training or practical rooms, equipment, and adequate supply of training materials.

The other crucial finding discovered in this study is of the poor usage of computer technology in the teaching process. There have been promotional campaigns worldwide on the importance of use of technology in a suitable way to enhance the learning and teaching process. Teachers can use technology to develop their teaching ability. Findings of this study also revealed that the public has a poor impression on the TVET college sector. The primary objective of the vocational education so that they will be able to obtain certification for employment.

Conclusion

The current status of TVET College programmes generally in South Africa is not all gaining the necessary recognition. The public and community perception of TVET is that the vocational education was established for the purpose of "fit for all". Since vocational education is challenging, many students find it difficult to proceed to the next level of education. The delivery of quality TVET is dependent on the competence of the lecturers. Competence is measured in terms of theoretical knowledge, technical and pedagogical knowledge as well as being abreast with new technological developments. Clearly, from the findings of this study staff developmental matters should be a major concern for Majuba TVET College senior management for ensuring higher and improved quality programmes.

Recommendations

In order to improve and ensure effectiveness of Majuba TVET College programmes it is crucial to acknowledge that training and effectiveness of academic programmes requires appropriate training equipment and tools, adequate supply of training materials, and practical rooms for the learners. Other requirements, which are essential, include relevant textbooks and training

manuals and qualified lecturers with experience, and industrial knowledge. In order to ensure coherence and effectiveness of training programmes in the college, it will be necessary to employ occupational learning programmes with the assistance of SETAs. According to the Skills Development Act 37 of 2008, a learning programme comprises of apprenticeship, learnership, and any other prescribe learning programme that includes a structured work experience component. It is stated that learnerships were also introduced in the Skills Development Act (1998) as a mechanism for the South African government to invest extensively in the skills development for empowering the citizens of this country and also to reduce unemployment and poverty.

It is strongly recommended that the senior management of the college to also take into cognizance that most of students from Majuba TVET College are from relatively poor and often rural backgrounds, with most parents working in agriculture and domestic workers, while others survive through grants from the government. Since students solely on a TVET certificate to be able to obtain decent employment, it's important for Majuba TVET College to ensure that they equip these students with relevant and effective industrial skills and knowledge.

5. 5 Conclusion

It is evidence that much is still needed to be done at Majuba TVET College in order to realise the purpose of the TVET's Sector. In chapter two it was outlined that TVET main aim is to balance education and training by offering students with the sound foundation of knowledge in conjunction with practical application. For this purpose to be accomplished, the underlying assumption is that there should be a strong partnership relationship between TVET Colleges and the local industries. The professional and pedagogical competence of the TVET lecturers is fundamental issue of concern for TVET propose to be reached. It cannot be disputed that the success of the implementation of TVET programmes strongly lies on funding. The Department of Higher Education and Training should, therefore, make serious efforts not solely to issue funds for staff professional development but also to retain these lecturers from the field. In conclusion, regardless of the study's limitations, the researcher believes that this study has contributed new knowledge to the existing literature on TVET Curriculum, National Skills Strategy policy documents and so on.

5.6 Areas for Future Research

This study focussed only the Majuba TVET College Programmes. There is need to examine other stakeholders of the college such as middle management, staff, students and more representatives of local industries to find out their views about the current status of Majuba TVET programmes. For example it is extremely important to find out the views of lecturers about the impact of developmental programmes that they have completed (such as Assessor, Facilitator, and Moderator programmes) in their classroom environment, determine which programmes are necessary for them to maximise their performance in class and be able to impart industrial skills and knowledge to their students. This study focused mostly on the views of the senior management of the college. The researcher strongly suggests that future studies should consider more local industries representatives and consider the perception of lecturers about TVET programmes since they constitute the most crucial instrument in the execution of programme delivery. Lastly, the researcher also suggests that, further studies should focus on the "Improving the image of TVET College Programmes to the Public".

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